

# THE ILLUSTRATED LONDON NEWS

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SIXPENCE.

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AN ENEMY WEAPON WHICH FIRES A SHELL WEIGHING OVER 1000 LB.: THE GREAT 12-INCH SIEGE-HOWITZER OF THE AUSTRIAN ARMY.

The Austrian 30·5 centimètre (12-inch) siege-howitzer probably ranks next to the monster 42-centimètre (16·5-inch) siege-howitzer which is understood to have been employed against certain of the Belgian fortresses in the earlier phase of the war and is the most formidable piece of heavy ordnance in Europe. The pieces are made at the Austrian counterpart of Krupp's works, the Skoda Waffenfabrik, in Bohemia, which supplies the

imperial armies with their artillery and ammunition. The howitzer was first made in 1913, when it was experimented with at the year's manoeuvres. The 30·5-centimètre howitzer is capable of elevation up to 65 degrees, recoils 6 feet at each discharge, and fires a shell weighing upwards of 1000 lb. The barrel weighs 6½ tons, the total weight, with recoil equipment and mounting, being a little more than 28 tons.



## "OUR NOTE-BOOK."

Owing to the continued illness of Mr. G. K. Chesterton, we are compelled to omit "Our Note Book." We trust that Mr. Chesterton will be well enough to resume it before long.

## PARLIAMENT.

THE War Session of the House of Commons is proceeding quietly. While the right of criticism has been fully preserved, the party sword is sheathed, and as much assistance as possible is given by the Opposition to the Government. Realities of war were made visible to the House on Monday when a writ was moved for the election of a Member for Mid-Antrim in room of Captain O'Neill, "killed in action"; and when Mr. Hilton Young, on his return for Norwich, was introduced wearing the uniform of the Royal Naval Reserve. The Army has been the main subject of this week, the Estimates for it being submitted in dummy, and no actual figures given. Even if real estimates could have been formed, it would have been inadvisable to disclose them to the enemy. Mr. Tennant, the Under-Secretary for War, in his skilfully reserved and discreet, yet interesting, review of the Army, informed the House that recruiting had been very satisfactory, but recommended "a little more energy"; he made a reassuring announcement with regard to our ability to meet the requirements in horses, boasted that the British design of aeroplane had proved itself superior to that of any other nation, gave the testimony of Sir John French to the high value of the Territorials; praised the sanitary service, and was specially cheered when, in referring to enteric, he said evidence was accumulating in favour of making inoculation compulsory. An eloquent tribute which he paid to the valour of the British soldier was endorsed by Mr. Walter Long, who said his heart was as brave and his hands as clean as had been those of his predecessors. Another attack was directed at the Press Bureau, which provokes more criticism than any other branch of administration, except that relating to alien enemies. Even the war pre-occupations have not prevented the House of Commons from taking interest in recent Government changes. Mr. Montagu, a man of marked capacity, having succeeded Mr. Masterman as Chancellor of the Duchy of Lancaster, his place at the Treasury has been given to Mr. Acland, who won general favour by industry and courtesy in the post of Under-Secretary for Foreign Affairs; and Sir Edward Grey's new departmental colleague is Mr. Neil Primrose, under whose father he began in the same post his own official career. Mr. Primrose has given proof that he inherits some of Lord Rosebery's attractive qualities of manner and speech, and his accession to the Treasury Bench has caused a pleasant Parliamentary flutter. At the same time, Mr. Cecil Harmsworth, who served an official apprenticeship as private secretary to Mr. Runciman, has succeeded Mr. Ellis Griffiths at the Home Office; and Mr. Beck and Mr. Walter Rea, both safe and zealous Parliamentarians, have been appointed Whips. While these changes have occurred on the Liberal side, the Unionists in the House of Lords have lost a distinguished, kindly, and popular colleague by the death of the Marquess of Londonderry; and by the consequent succession of Viscount Castlereagh to the Peerage, the Opposition in the House of Commons is deprived of the services of another man of Parliamentary ability.

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## SUBWAY WARFARE: IN THE RUSSIAN TRENCHES.

BY GRANVILLE FORTESCUE.

THE modern warrior has developed the characteristics of a mole. He lives underground, and displays his greatest activity at night. With the coming of subterranean warfare, as trench-fighting can be appropriately called, great armies have had to adopt unique methods. They have been compelled to build peculiar little forts—for a trench is a fort, in fact—wherever their soldiers meet the enemy. In consequence, these rectangular excavations have been improved far beyond their original outline.

The first trench was nothing more or less than a hole in the ground, deep enough to protect a man kneeling, standing, or sitting, as the case might be. Before the day of the modern rifle and modern cannon, these defences, with a couple of feet of loose earth thrown up in front of them, served admirably. In Civil War days the question of head-cover was of minor importance; to-day a protective roofing is the *sine qua non* of any well-constructed trench. Early in the Great War it was discovered that the trench offered the safest haven from the bursting shells of the enemy's field artillery. To all intents and purposes, shrapnel—or, as its inventor termed it, the man-killing projectile—is practically harmless in its effect upon entrenched troops. Unless a shell can be placed absolutely within the two-foot wide excavation, it wastes its destructive powers on the inoffensive earth and air. This has led to a modification of artillery methods, which, in turn, compels the elaboration of the trench and emphasises the importance of head-cover.

I had unusual opportunity of studying this new phase of warfare when the Germans were making their heart-breaking but futile charges against the Russian trench-line in Poland defending Warsaw. I visited Sochaczew several times when that unfortunate town was under the fire of the enemy's bomb-throwers. It is on the banks of the Bzura, and almost in the centre of the Russian line, which extends 150 miles to the north and 150 miles to the south. Those 300 miles are a series of these little earthworks, and never a day passes but that torn and bleeding bodies dot the narrow walls.

The houses of the town of Sochaczew have literally been beaten to earth by the German giant shells. They have

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disintegrated under the shower of blasting cones of fire. Whole streets are tumbled into one indistinguishable mass of brick and rubble. Where a house does stand, its roof or front has been torn off, leaving exposed a pitiable disarray of its sacred Lares and Penates.

A furtive dog skulks through the deserted streets. But of those who lived in what was once a peaceful, happy town, not one remains. Your first impression is that the place is absolutely deserted; then you are startled to see a soldier suddenly pop out of the ground at your feet: three or four other heads will appear from openings that gape in the soil. You have stumbled on a company camp. It bears no resemblance to a camp in the popular sense: not a tent, not even the despised dog-tent, is stretched above ground!

It reminded me vividly of the prairie-dog village in the Bronx "Zoo" park. The entrances to the underground huts, which make a little mound above the surface of the ground, are all that you notice, except a conspicuous chimney. Every dug-out has an open fireplace. Of course, it is only large enough for one or two sticks of wood, but this serves amply for cooking and heating purposes. After one or two polite inquiries—the Russian soldier is always polite—I was taken to Major Sokolowski, of the 266th Regiment, who invited me to the commodious cavern which served as his quarters. He was dug-in behind the brick walls of a burnt-out house about three hundred yards in rear of the fire-line trenches. Coming from the bright sunshine, it was a moment before my eyes got accustomed to the semi-darkness. The commanding officer's cavern boasted no luxuries. A table, two stools, and a rough shake-down were all that it contained in the way of furniture. Before the table sat his Adjutant, writing by the light of a penny dip. Military routine went on with the same regularity as above ground. After the usual polite greetings, the Colonel, pointing to the report that lay on the table, said, "It's a recommendation for bravery." Then he told me the remarkable story of Private Fuchs.

This soldier had only just returned from accomplishing an exploit of the greatest nerve. An interesting phase of the present warfare is the interchange of proclamations. So common is the custom that it might be called the Proclamation War. The Germans drop from their

aeroplanes thousands of handbills containing direct appeals to the Polish population and the Russian soldiery. Sometimes the handbills take a special form. One has the picture of a galloping Turkish cavalrman at its head, and in Arabic and Russian a statement that the Mussulman people have declared a Holy War against the Tsar.

Another is made up in the imitation of a five-rouble note. Across its face it says: "We will pay to any Russian soldier who delivers a rifle within our lines the sum of five roubles." On the other side is the picture of a fat and smiling Russian peasant supposed to be a happy prisoner in Germany.

To counteract the effects of these posters, the Russians have composed an answering handbill telling the Germans to put no faith in the mythical victories published by their Staff, and not to sacrifice themselves just to forward the useless ambitions of their officers. Private Fuchs engaged to deliver a packet of these posters in the enemy's lines. At the darkest hour of night, with a wrenched-off door as his raft, he paddled softly across the Bzura. He eluded the vigilant eyes of the enemy's picket until the very moment that he was about to land on the German side of the river.

Here the Bzura is not more than fifty yards across. Evidently hoping to catch Fuchs alive, the German sentry did not fire, but, calling several of his companions, ran out as if to surround the Russian. But the wily Fuchs ran directly forward, which was not what his opponents expected, and he managed for a moment to elude them. He half-did in a shell-pit directly under the German first-line trench, where he remained concealed from the enemy until they suddenly shot off a rocket. The falling stars lit up the country for half a mile, and showed the cowering Russian in his hiding-place. With a shout, the Germans again rushed at him. But as the silver sparks died out Fuchs again eluded his would-be captors, leaving a trail of handbills behind him, like a leader in a paper-chase, got back to the river bank, returned to his own side, from whence he watched the enemy beating the brush in a vain effort to discover him.

For this he has been recommended for the St. George's Cross.

After taking a photograph of Private Fuchs, who was paraded for my benefit, I started with the Adjutant and another officer for the fire-line trenches. First we stopped at the Russian observation post. This was in the garret of a brick building which had been greatly damaged with German shell-fire. It was hardly fifty yards from the banks of the Bzura, overlooking the bridge of the Kalish Road. Across the river I easily made out a line of raw earth regularly marked with loop-holes. These were the German trenches. Beyond them, near a wood, with a glass I could make out a battery in position.

"If you stay too long before the look-out, they shoot at you." This was a polite remonstrance from the Adjutant. I had been so interested in studying the German positions, undoubtedly I had more or less exposed myself. I managed to get a good picture of the bridge and the distant line of trenches before the tsing-tsing-tsing of speeding bullets announced the enemy's intention of cutting short my stay at the look-out.

Making my way down a rickety ladder, I found myself in the streets of what was once Sochaczew. The utter desolation and ruin appalled me. But, above all, I was struck with the injustice of war. What had the unfortunate inhabitants done that their peaceful homes should be suddenly turned into a heap of brickdust and ashes?

Passing down a side street, we suddenly found ourselves at a corner from where we had a clear view of the opposite river bank. Also, if we turned that corner, anyone on the opposite river bank could have a clear view of us. The Adjutant asked with a smile, "Shall we take the short cut—yes?"

Seeing that it was the expected answer, I innocently replied, "Yes, certainly."

I later discovered that there is a zigzag approach to the fire-line trenches under perfect cover. This is used in moving large bodies of troops to or from the front position, and also for bringing up ammunition and food. Otherwise, the short cut is used: it is across an open stretch of fifty yards commanded by German sharpshooters.

"I will go first," said the Adjutant. He darted across the open like a hare, but before he reached safety three bullets bit into the bricks above his head. I knew this running-the-gauntlet game from personal experience when I was a Roughrider in Cuba. But at that time I played the sharpshooter's rôle, watching for unwary Spaniards. I knew just as well as if I had been there what was happening in that German sharpshooters' trench. The first three shots had been fired by the look-out. Then he used the German equivalent for "Get up, you fellows; there are some damned fools trying to cross our zone!" And the rest of the squad jumped behind their loop-holes and shifted their rifles for better aim.

All this flashed through my mind as I started out to break the fifty yards' dash record. Subconsciously I counted eight singing bullets whistling through the air before I was once again under cover. But not even the skirt of my voluminous Russian uniform overcoat was touched. I turned to watch the two other officers make this dash across the danger zone. Those Germanians were certainly fourth-class marksmen. An American outfit would at least have winged somebody.

We turned into the saps leading to the river-bank. The approach leads through a cemetery. One section of the fire line is cut through a Hebrew burying-ground. The quick and the dead sleep side by side.

This bank of the Bzura rises almost sheer thirty feet above the stream. In the brilliant sunlight it was almost impossible to believe that the sparkling blue rivulet often ran red with blood. The opposite shore was a sloping bank of green where the winter wheat was just sprouting. Half-way up were two white farmhouses. It was a peaceful scene.

But overhead the shells were whining. At intervals that were timed with seeming care the great projectiles would explode. It was not a hurried performance, but the leisurely practice of a game so long played that it is not interesting. In trench warfare the cannon never ceases.

(To be continued next week.)





# THE GREAT WAR.

By CHARLES LOWE.



THE entry of the war into its seventh month was signalised by a considerable sensation, preceded by an atrocious crime—not only against international law, but against the laws of humanity. Contrary to the Hague Convention of 1907, to which Germany was a party, a German submarine, fifteen miles off Havre, fired a torpedo at the British hospital-ship *Asturias*, a fine, capacious liner of 12,000 tons; but, by the mercy of God, missed it. There could have been no doubt in the minds of the submariners as to the character of their target, since the evening light was still good, and the vessel wore the livery of all such Samaritan ships—a white hull with a green, horizontal, Plimsoll-like line round it, and on either beam—apart from the flag—a huge staring red cross which no one unaffected with myopia could possible mistake. Yet this sacrosanct vessel, with its freight of helpless wounded men, was in the most dastardly manner made the deliberate mark of a German torpedo—to the hand-upraising and horror of the whole civilised world, to which Germany can no longer claim to belong.

Next day it was officially announced at Berlin that "as England is about to ship to France a large number of troops and a great quantity of war material, we shall act against those transports with all the military means at our disposal," while "peaceful shipping" was strongly urged not to place itself in harm's way. Two days later, the war being now exactly six months old (which was far too much for German patience that had hoped to have been victoriously done with it inside three months), the Admiralty at Berlin gave formal notice that the United Kingdom had practically been placed under a blockade; that the surrounding waters were to be regarded as a "war-region"; that all merchant vessels found therein were liable to be sunk off-hand without statutory warning or benefit of clergy to the crews and passengers; while neutral shipping was warned that, owing to the exigencies of the situation, it might incur the fate which in this wickedly capricious and indiscriminating world so often involves the innocent with the guilty.

A chorus, or rather, a concerted scream of approval arose from the furious, foaming-at-the-mouth German Press. Our Government, on the other hand, through the Foreign Office, was quick to reply to this murder-at-sea manifesto. "By the rules of international law," it said, "the customs of war, and the dictates of humanity, it is obligatory upon a belligerent to ascertain the character of a merchant-vessel and of her cargo before capture. Germany has no right to disregard this obligation. To destroy ship, non-combatant crew, and cargo, as Germany has announced her intention of doing, is nothing less than an act of piracy on the high seas." In other words, the "Pirates of Penzance" had been fairly outdone by the pirates of Potsdam; while for the Eagle of Brandenburg—a most rapacious and evil-omened bird—the Kaiser had now frankly substituted the "Jolly Roger" with its white skull on a black ground.

Throughout all neutral countries this second "Berlin Decree"—the first had been issued from the same capital by Napoleon after Jena—was received with the utmost indignation and protest, but nowhere more so than in the United States, where one leading paper referred to the Kaiser as the "mad dog of Europe which would have to be tethered up"; another remarked that Germany's "navalism" was clearly tarred with the same brush as her militarism; a third characterised the edict as "arrant stupidity, if not piracy"; a fourth held it to be "a declaration of war against the entire world." One writer declared

that "its effect upon German propaganda in this country [America] must be paralysing"; another said that "desperation could go but little further"; while the moral drawn by all was that the Kaiser must have been insane to issue such a suicidal ukase—the more so since he must be well aware that his "paper blockade" could be no more effective than that of 1806. It was a case of William the Grandiose trying to ape the methods of Napoleon the Great.

Turn we from those "paper blockades"—those "quibbles quick and paper bullets of the brain"—to bullets of a much more substantial, because silver and even golden kind, as exemplified by what has been called the "Three-Power Pool," which was formally established at Paris by the Finance Ministers of England, France, and Russia. The news of this international Consortium was all the more gratifying

adverse to Germany, and at Berlin it is sure to be regarded as a financial measure of the most far-reaching importance—a counter-stroke of some Colbertian genius, but of the Satanic kind, greater than the corrupter of all the Napoleonic Continent with "Pitt's gold." Should our wonderful Chancellor of the Exchequer prove to be the intellectual author of that brilliant scheme, it will be credited to him as one of the cleverest and most effective things he ever did.

If the Kaiser once referred to Mr. John Burns as a "cursed little grasshopper"—for doubting whether the German Army continued to be "what it was in the old days"—what will he now say of Mr. Lloyd George and his establishment of the "Three-Power Pool"? Short of our recovery of Antwerp, this was the worst possible news that could have reached his piratical Majesty on the Polish front, whither he had hastened after distributing Iron Crosses to the crew of the *U 21* Submarine at Wilhelmshaven, hoisting the "Jolly Roger," examining the serious damage done to several of his battle-cruisers by Sir David Beatty's squadron, and hearing—as we ourselves now authentically learn from Constantinople—that the *Goeben*, having struck a Turkish mine, is "absolutely beyond repair"—in the Golden Horn, at least.

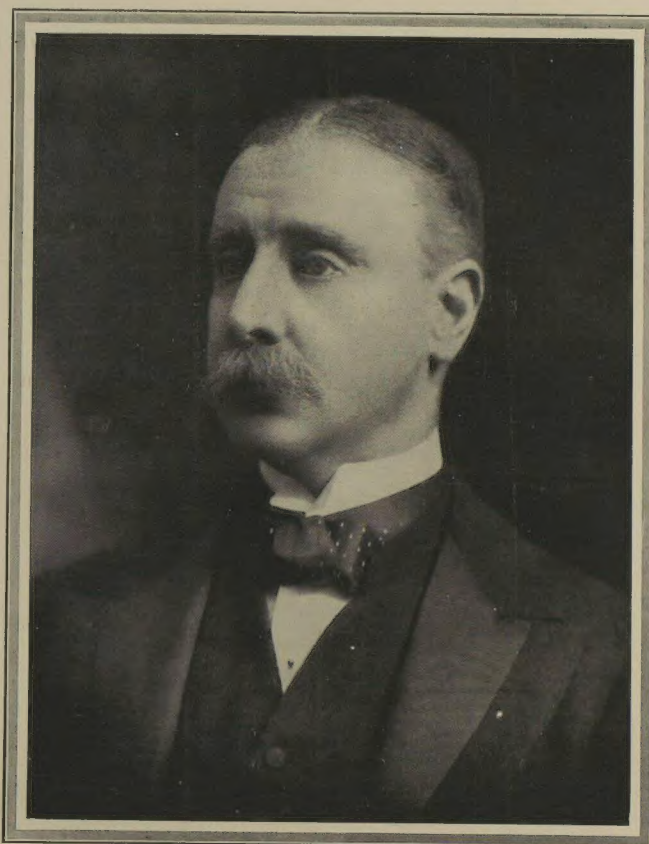
The Kaiser, I say, after leaving the head-centre of piracy in the North Sea, had again hied him to the Polish seat of war—where he had been forestalled by his fellow-Sovereign, the Tsar—in order to comfort his broken legions, which had received such another dreadful battering from the Russians, mainly on the line of the Bzura affluent of the Vistula, which the Germans, on a comparatively narrow, seven-mile front, had sought to force with dense mass-formations of 140,000 men and 600 guns—just about the number that finally drew a circle of death and destruction round the heights of Sedan. But, if we are to believe the telegram about this Polish battle, lasting several days, all the wild-bull fury of the Germans was baffled in the bravest manner by the Russians, who fought with an obstinate valour worthy of the invincible soldier-race which inflicted on Frederick the Great one of his bloodiest defeats—at Kunersdorf, and all-but overwhelmed him at Zorndorf.

Triumphant on the river Bzura, the Allied cause was equally victorious on the Suez Canal, against which the Turkish attack from Syria, inspired and led by German officers, ended in a perfect fiasco, after sporadic fighting, lasting over several days.

A German Major shot during one of the engagements was found to be "carrying a white flag in a specially designed khaki wallet"—so as to be ready for all emergencies, except the one which had now befallen him.

In killed (of whom there were over 500), wounded, and prisoners, the Turkish casualties amounted to some 1200; and the baffled remnant of the Ottoman rabble-force of 12,000—which is said to have reached the Canal, or at least points within range of its fire—turned tail and went rolling back to Syria as fast as ever it could. It was one of the maddest of military enterprises ever attempted, and will probably never be renewed. But it gave the Australasians their baptism of fire. It also furnished welcome food for merriment to our invincible men in Flanders, who are likewise weltering about in a world of ditch-water and canals which the Germans find it equally impossible to cross; nor has the courage of our Tommies been depressed, but rather steelled, by the official statement that our various casualties of all ranks in the Western area of the war alone for the first six months of its waging amounted to about 104,000.

LONDON: FEBRUARY 9, 1915.



A LOSS TO THE COUNTRY: THE LATE MARQUESS OF LONDONDERRY, K.G., P.C., G.C.V.O., C.B.

From the King and Queen, who counted him among their personal friends, to the collier working in the great Durham mines, which were the principal source of the great wealth of which he made such wise and beneficent use, everyone who had been brought into touch with the late Marquess of Londonderry learned of his death on February 8, at Wynyard, with a sense of personal loss. High-minded, sympathetic, kindly to a degree, Lord Londonderry regarded his great position, his wealth, and his powerful influence as held on trust for the good of all with whom he was associated; and to personal dignity, wide political knowledge and experience, he added a fine sense of justice and of honour which compelled the respect even of those most rigidly opposed to his political views. Sportsman and man of the world, as well as statesman, Lord Londonderry was a real power in many phases of the national life. He was in his sixty-third year. His activities at various periods included those of M.P. for Co. Down, Chairman of the London School Board, Postmaster-General, President of the Board of Education, Lord President of the Council, Mayor of Durham, Lord-Lieutenant of Ireland, and a member of the Ulster Unionist Council.—[Photograph by Lafayette.]

as it followed hard on the issue of the new Army Estimates, fixing our total military establishment at the very encouraging figure of 3,000,000 men, while the personnel of the Navy has also been raised by 32,000 to 250,000.

This will be just as badly bitter news for the Kaiser as the formation of the international Consortium, whereof the main object is to be responsible in equal shares for advances to such of those smaller and less wealthy States as join in the war—States like Belgium, Serbia, Roumania, Greece, and even, perhaps, Italy and Japan, should they decide to chip in and have a hand in the great war-game. The Consortium in question has other economic aims, all



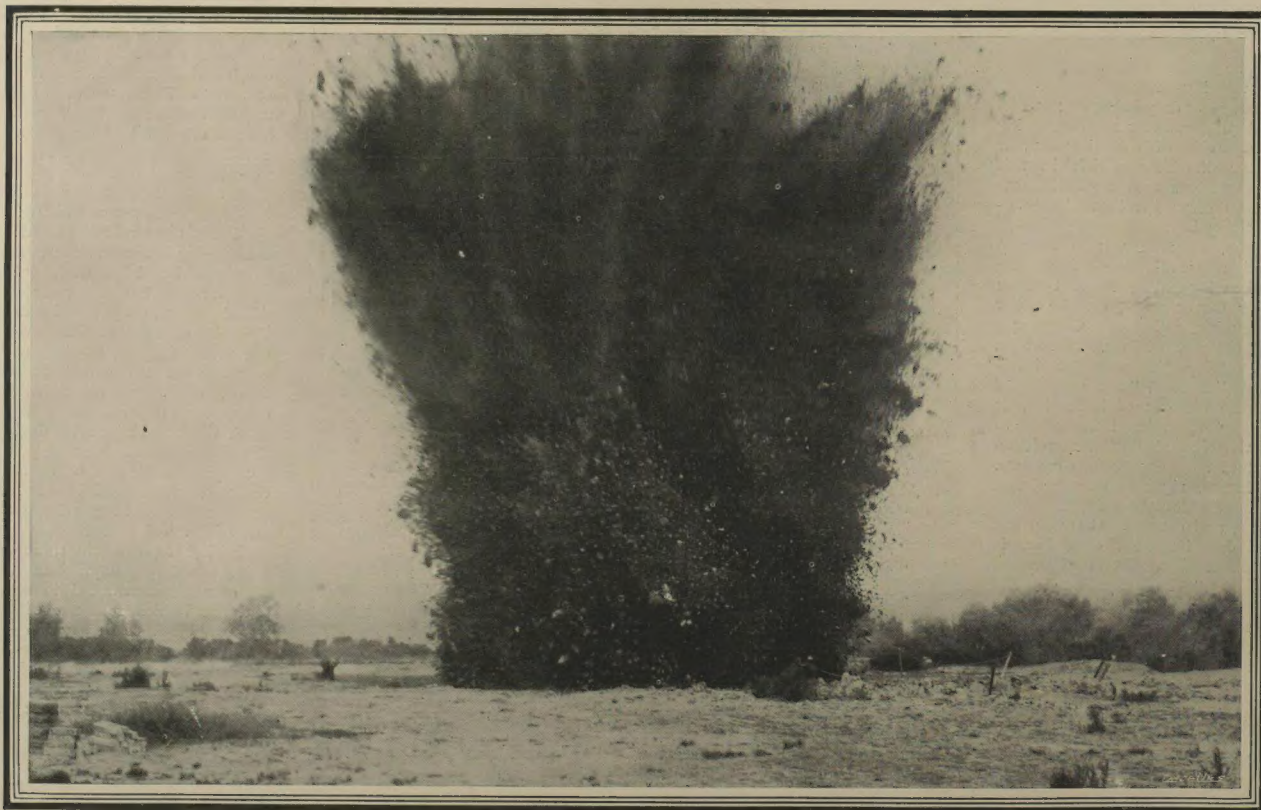
## THE DEADLY LAND-MINE: ITS OBJECTIVE AND A TYPICAL EXPLOSION.



WHAT A LAND-MINE IS FREQUENTLY USED TO DESTROY: MEN WHO MAY BE HURLED INTO THE AIR BY AN UNDERGROUND EXPLOSION—  
A TYPICAL SECTION OF TRENCHES.

In this photograph is seen the kind of objective against which land-mines are frequently used in siege-warfare—that is, a typical section of trenches; in this case, Austrian. In the note by Mr. Frederic Villiers given in this Number under his double-page drawing of a land-mine exploding in German entrenchments, it is mentioned

that sometimes over a hundred men are involved in the upheaval. On one occasion, for example, forty men were blown to pieces at once in a land-mine explosion, and eighty were badly wounded. Such is one of the many perils to which entrenched infantry in modern warfare are exposed!—[Photograph by Topical.]



WHAT WOULD HAPPEN TO A SECTION OF TRENCHES AND THEIR OCCUPANTS IF A LAND-MINE EXPLODED BENEATH THEM:  
"AN UPHEAVAL OF EARTH AND DÉBRIS."

It is interesting to compare this actual photograph of a typical land-mine explosion with the double-page drawing by Mr. Frederic Villiers elsewhere in this Issue, referred to above. Mr. Villiers writes in his note on the subject: "There is very

little steam or smoke seen in the explosions. They are simply vast upheavals of earth and débris." In the case of a land-mine bursting under trenches, of course, much of the débris consists of torn limbs and other portions of human bodies.

*Photograph by Newspaper Illustrations.*



## A WONDER OF NOTRE DAME BREBIÈRES: AT STRICKEN ALBERT.



HOLDING OUT HER DIVINE BABE IN SILENT APPEAL OVER THE HAPLESS TOWN: A STATUE OF NOTRE DAME ON THE CHURCH TOWER AT ALBERT DISPLACED BY A GERMAN SHELL AND HELD SUSPENDED IN MID-AIR.

This remarkable effect of a German shell which struck the summit of the church of Notre Dame Brebières at Albert might well seem, to the superstitious, to be in the nature of a miracle. The shell partly smashed the ironwork that held in place the pedestal of the statue of the Virgin surmounting the tower, with the result that it fell partly over and remained suspended at right angles to the tower. Miracles apart, the sight of this type of sacred motherhood holding out in her arms the infant Saviour, thus made a victim of destruction, seems to symbolise the protest of Christendom

against the German outrages committed upon its holy places. The church at Albert, which had been restored shortly before the war, used to attract many pilgrims. The town was called Ancre until, in 1617, Louis XIII. presented it to Charles d'Albert, Duc de Luynes. It was near Albert, by the way, that the Germans recently sent fire-boats down the River Ancre, on which the town stands, to damage the French positions. "These contrivances," said a Paris *communiqué*, "were stopped before they exploded."



## THE PRINCE OF WALES AT THE TRENCHES: A VISIT TO THE FRENCH LINES IN ALSACE.



THE BRITISH HEIR-APPARENT ON ALSATIAN SOIL RECONQUERED FROM GERMANY BY THE FRENCH: LIEUTENANT H.R.H. THE PRINCE OF WALES LOOKING TOWARDS THE GERMAN POSITIONS FROM THE FRENCH ADVANCE-TRENCHES.

The Prince of Wales has recently been visiting the French lines in the reconquered districts of Alsace, under the guidance of two French Generals. Soon after the war began, it will be remembered, he joined the Grenadier Guards, and, as from November 14, he was appointed an Aide-de-Camp to Sir John French. His Royal Highness has spent his time since in making himself thoroughly acquainted with the work of the troops at the front. On November 16 he was already at Boulogne on his way to General Headquarters, where his zeal and modest bearing soon won him golden opinions. Although nominally attached to the General Staff, he was not tied to it, but was attached in turn to Army Corps, divisional, and brigade headquarters. So he went about visiting the various troops and services, driving his own car, and generally taking a six-mile walk before breakfast. The news that, on December 9, he had been promoted to the rank of Lieutenant found him at Rouen, where he paid a surprise visit to the cavalry -emount dépôt and the British veterinary camp for horses, greatly

to the delight of the men, who cheered him heartily. He also visited the military hospitals and ambulance stations. His journeys to different parts of the battlefield had now been extended to the French lines, and on January 17, we find him at Nancy, where he visited the devastated district round Lunéville and Gerbéviller. From Nancy he went on to Belfort, and thence to the front in Upper Alsace. A charming description of the Prince with his officers at an hotel in Senlis, about this time, written by M. Marcel Laurent, the well-known French novelist, showed how his unaffected manners and simplicity of tastes won the hearts of the French people wherever he went. The Prince's subsequent journeys have included a visit to the Canadian hospital at Le Touquet on January 29. The following day he was back at General Headquarters, where he was invested with a Russian decoration by General Prince Yousoupoff, A.D.C. to the Emperor.

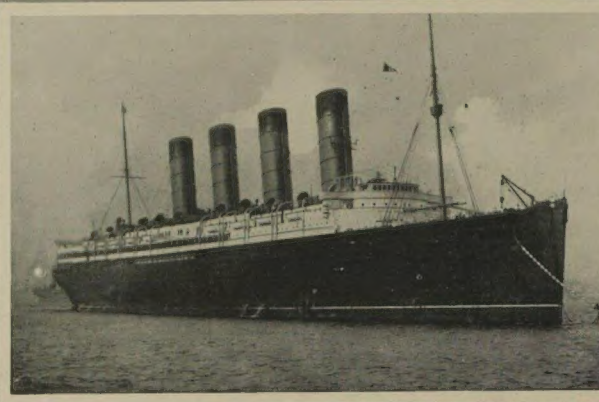


# THE CAMERA AS RECORDER: NEWS BY PHOTOGRAPHY.

PHOTOGRAPHS BY ALPIERI, TOPICAL, LONDON ELECTROTYPE AGENCY, UNDERWOOD AND UNDERWOOD, AND SPOT AND GENERAL.



THOUGHT TO HAVE BEEN SUNK BY A GERMAN SUBMARINE, HER CREW BEING LEFT TO DROWN: THE LONDON STEAMER "ORIOLE," TORPEDOED IN THE CHANNEL.



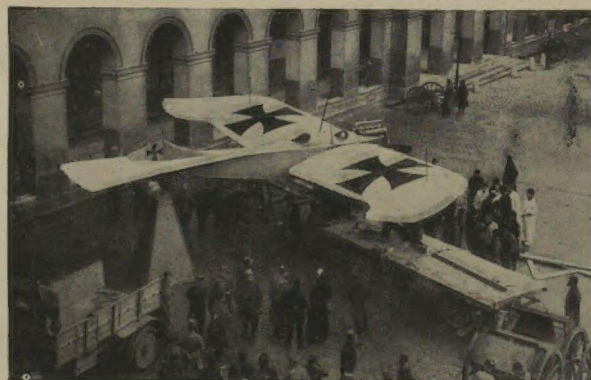
ADVISED BY THE ADMIRALTY TO HOIST THE STARS AND STRIPES TO SAVE THE PASSENGERS FROM GERMAN ATTACK: THE CUNARD LINER "LUSITANIA."



THE "SILVER BULLET" CONFERENCE IN PARIS: THE THREE ALLIED FINANCE MINISTERS, M. BARK, M. RIBOT, AND MR. LLOYD GEORGE, IN SESSION AT THE MINISTRY OF FINANCE IN PARIS.



THE EUROPEAN CLEARING-HOUSE FOR PRISONERS OF WAR: IN THE CORRESPONDENCE-ROOM OF THE GENEVA BUREAU FOR ALL NATIONS.



A PLAIN HINT TO OUR OWN AUTHORITIES—THE DISPLAY OF GERMAN TROPHIES TO THE FRENCH PUBLIC: A TAUBE AT THE INVALIDES.

The "Oriole," a new cargo and passenger vessel of 1489 tons, belonging to the General Steam Navigation Company, left London for Havre on January 29, with a crew of twenty-one hands. She did not arrive, and on February 7 two of her lifebuoys were picked up near Rye. On February 9 the Admiralty announced: "There is grave reason to fear that she may have fallen a victim to the German submarine which torpedoed the 'Tokomaru' and 'Ikaria.'"—The Cunard liner "Lusitania," when nearing the Irish coast on her voyage to Liverpool, received on February 7 a "wireless" from the Admiralty advising the hoisting of the United States flag as a safeguard against the threatened German submarine attacks. Under those colours the "Lusitania" proceeded

port. An interesting point of international custom is raised by the incident.—During the last week of January, Mr. Lloyd George crossed to Paris to confer with the Finance Ministers of France and Russia, M. Ribot and M. Bark. M. Bark is on the left of the photograph, and M. Ribot in the centre. The decision was come to for the Three Allied Powers "to unite their financial resources . . . for the purpose of carrying the war to a successful conclusion."—Geneva has been accepted as the clearing-house of Europe for all matters connected with prisoners of war.—We may well envy the Parisians the display of German trophies at the Invalides. Numbers of German cannon are on view, and, as our illustration shows, a captured Taube has joined the collection.



## HARVESTING UNDER FIRE: AND THE HARVEST OF DEATH, THE REAPER.

LOWER PHOTOGRAPH BY ILLUSTRATIONS BUREAU.



WORKING IN THE FIELDS BETWEEN THE BRITISH AND THE GERMAN TRENCHES WHILE BULLETS WERE WHIZZING ALL ABOUT: PEASANTS THRESHING UNDER FIRE AT THE FRONT.



THE HARVEST OF DEATH: GERMAN SOLDIERS KILLED WHILE ATTEMPTING TO STORM THE FRENCH LINES BETWEEN SOISSONS AND BERRY-AU-BAC, ON THE GERMAN EMPEROR'S BIRTHDAY.

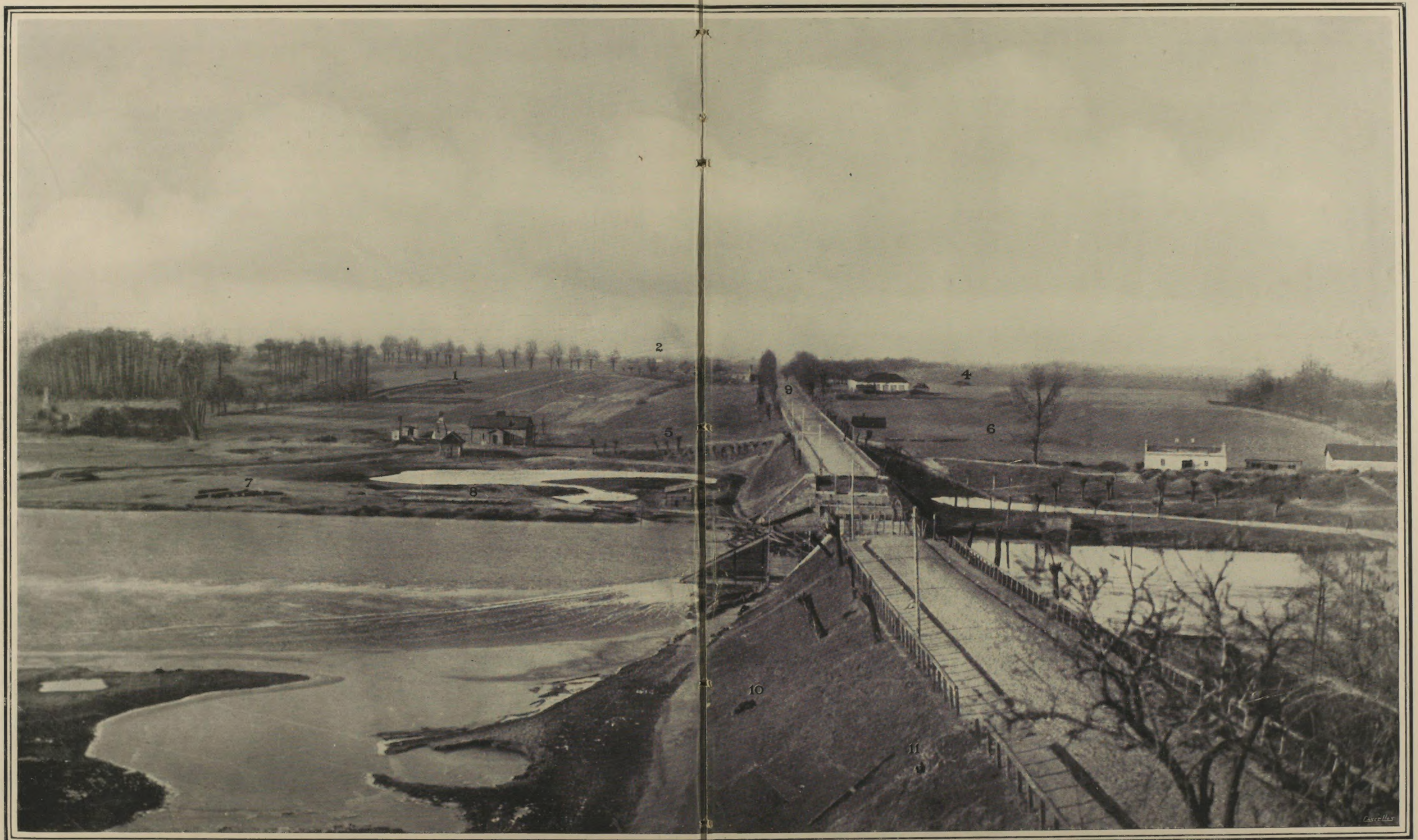
The first of these two illustrations is especially remarkable inasmuch as it shows, as we have already noted, peasants threshing under fire. In the centre is seen the threshing-machine, and on its left, as one looks at the photograph, are the peasants at work. In the background are British soldiers digging the second line of our trenches. About a thousand yards away from this second line was the first line of British trenches, and fifty yards further on was a line of German trenches. As the peasants worked, and while

this photograph was being taken, bullets were whizzing all about. So harvesting took place in the midst of death. Our second photograph shows a very different kind of harvest—harvesting at which Death was the reaper. It was taken after the final repulse of a determined attempt made by the German Emperor's troops to storm the French lines between Soissons and Berry-au-Bac on the All-Highest War Lord's birthday. The soldier standing amid the many bodies of Germans was, of course a Frenchman.



# PHOTOGRAPHED UNDER FIRE: DURING THE MONTHS OF NIGHT-AND-DAY BATTLES FOR THE RIVER-CROSSING.

PHOTOGRAPH BY GRANVILLE FORTESCUE (ALL RIGHTS RESERVED).



SEEN FROM THE RUSSIAN TRENCHES: GERMAN POSITIONS ON THE BZURA SHOWING THE BROKEN BRIDGE WHERE THE KALISH ROAD CROSSED THE WATER.

The Bzura, one of the chief Polish affluents of the Vistula on the south bank, thirty miles west of Warsaw, has been for months past the scene of the most formidable efforts of the Germans in the Eastern theatre of war. The Russian central army has been holding the eastern bank since November against incessant attempts by the Germans to pass the river and hack a passage through to Warsaw. It was on the Upper Bzura and its tributary the Rawka that the fearful onslaught of 150,000 Germans massed on a front of seven miles was made last week, with the result that the German attack was repelled with a loss of life equivalent to a wholesale massacre, and the Russians were left masters of points of strategic importance on the German side of the Bzura. Our illustration shows the central portion of the battlefield, and the elaborate form of attack, supported by field

fortifications and an immense force of artillery, which the Germans employed near Sochaczew, where the main road to Kalish crosses the river. Nos. 1 and 4 show the main line of the German batteries ranged on a sloping hillside in the background. No. 2 is a distant white-walled farmhouse used by the Germans as a hangar for six aeroplanes and a captive balloon. No. 3 shows the German redoubts protecting heavy guns; Nos. 5 and 6 show the German infantry trenches; and Nos. 7 and 8 mark the earthworks thrown up by the Germans in their attempt to cross the river. No. 9 is the destroyed bridge where the Kalish road crossed the water; Nos. 10 and 11 are German shell-pits in the road embankment. Without question, the photograph is one of the most remarkable of the Great War.



## The Recrudescence of Siege Warfare.

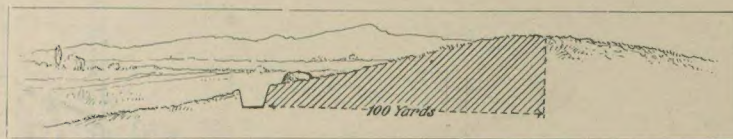
TWENTY years ago, the engineers of all armies practically agreed to the proposition that their work as directors of siege-operations and designers of fortifications had come to an end, and that no more fortresses would be constructed, or sieges initiated, since the mobility of field armies was the decisive factor in modern warfare. They also agreed that if

Waterloo, and seizing positions just about a hundred yards below the break of a slope or the brow of a hill, entrenched themselves and let the Germans come on as they pleased.

In this position they were hidden from the terrible preparatory fire of the German artillery (the only thing they had to dread), for, though the Taubes could still see them, they could not guide the gunners in ranging on their target, and thus the keenest edge of the shell-fire was broken. But they themselves, of course, could not see beyond the break of the slope,

Fortunately, both these inventions have proved rather too heavy for convenience—and, though we are rapidly providing an answer to them (in which, I trust, this essential condition of weight will not be overlooked), I am inclined to think that the British expedient of the old Roman *onager*—so called because it kicked like a wild ass—is the best expedient of the kind yet in use.

The sketch indicates its construction. The complicated "Spanish windlass" of twisted cord used



WITH A CLEAR 100 YARDS FOR THEIR RIFLES TO WORK IN: THE MANNER IN WHICH BRITISH ENTRENCHED THEMSELVES—THE EDGE OF THE ENEMY'S SHELL-FIRE BROKEN.

you had money to spend, you obtained better value for it by concentrating on roads, railways, bridges of all sorts—on anything, in fact, save only on bricks and mortar locked up in permanent works.

I rather think that history would have justified this conclusion, but for the sudden appearance of one

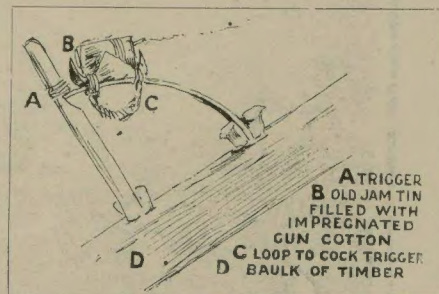
either; therefore, the Germans were able to creep up to the edge and entrench, in their turn, unimpeded, and thus, after a few days, Loth infantries found they were facing one another at short range, and practically deprived of artillery support. This system spread like wildfire all along the line, and once the idea had been grasped, its application in level ground to get in, so to speak, underneath the guard formed by the big shells of the German siege-artillery, followed as a natural corollary.

Three or four hundred yards away from the German trench at C, it was clearly impossible to hold the ground, for German gunners could make sure of bursting their shells over A without endangering the occupants of C; but at B, say 150 to 50 yards only from C, a high explosive shell bursting midway was about equally dangerous to both, and one bursting short meant practically a "wipe-out" for the whole German garrison.

Thus for the time being the two infantries were left to fight things out alone, and instinctively they went back to the old appliances and methods of two centuries ago. First amongst these came the revival of what was known as the Coehorn, or trench-mortar, which owed its name to a celebrated Dutch engineer (who had attacked and

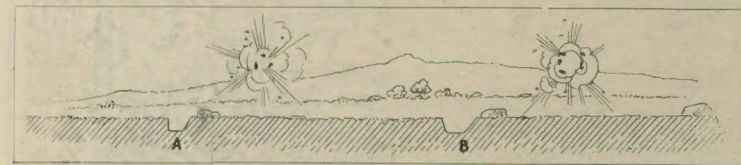
defended many places in the same locality), and was merely a small brass mortar, with a bore of from 4 to 5½ inches, mounted on a wooden bed, which could easily be carried about by hand to convenient places in the trenches and used for "lobbing" shells for short distances—a couple of hundred yards at the outside; or it threw boxes of hand-grenades, little shells weighing about 3 lb., in a "bouquet," as it was called.

Here the Germans, showing greater foresight than the Allies, had gone a step beyond us, and had actually provided themselves with mortars of this description, the so-called *Minenwerfer*—mine-throwers—and they had also devised silent mortars which discharged quite large, high-explosive charges by means of compressed air, or other gas brought up in cylinders.



THE "OLD ROMAN ONAGER" AS USED IN THE BRITISH TRENCHES TO-DAY: AN EMERGENCY "THROWER" FOR HURLING JAM-TIN GRENADES INTO THE GERMAN TRENCHES.

in the old Roman type has been abandoned, and its place taken by a simple steel spring, taken out of a railway-truck, or any steel works, and mounted on a sleeper. As will be seen, the trigger is simplicity itself—practically the same thing as that used by boys in setting brick-traps for birds. Because its capacity is limited to charges of only some 10 to 15 lb., there is little danger of the particles thrown off in bursting damaging anybody except the enemy; whereas with the very considerable charges flung by the *minenwerfer*, and similar

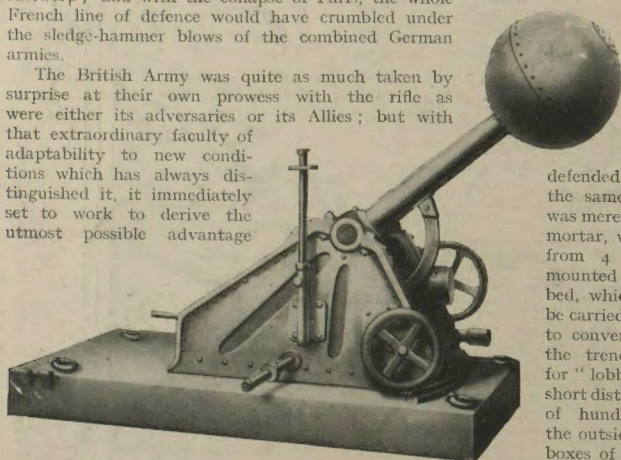


AFTER THE SYSTEM SHOWN IN DIAGRAM 1. HAD TAUGHT A LESSON: BRITISH TRENCHES (A AND B) ON LEVEL GROUND, UNDER THE GUARD OF GERMAN SHELLS!

unexpected factor in modern warfare—namely, the astounding accuracy of the shooting made by the British infantry under conditions in which nobody had ever expected infantry to hit anything at all.

But for this power, which enabled us to fight in retreat day after day against quite unheard-of odds—five, and even six to one—I fancy that the Cassandras of the military engineering world would have been justified in their contention; for, had our "contemptible little Army" been over-run—as, according to all the books, it ought to have been—the Germans would have swept up to the walls of Paris and crushed down the masonry defences of her forts with their heavy howitzer fire, precisely as they crushed all power of resistance in the intrinsically stronger works designed by Brialmont—at Liège, Namur, and Antwerp; and with the collapse of Paris, the whole French line of defence would have crumbled under the sledge-hammer blows of the combined German armies.

The British Army was quite as much taken by surprise at their own prowess with the rifle as were either its adversaries or its Allies; but with that extraordinary faculty of adaptability to new conditions which has always distinguished it, it immediately set to work to derive the utmost possible advantage



USED AGAINST BRITISH TRENCHES IN THE GREAT WAR: THE GERMAN MINENWERFER (MINE-THROWER).

from its discovery, and in so doing it set the pace to which all other armies have now conformed, and thus it has brought about a temporary recrudescence of some of the oldest methods of warfare.

Finding that they could rely on themselves, absolutely, to shatter any assault the Germans could deliver, if they only had a clear hundred yards for their rifles to work in, the British infantry instinctively threw back to what had been the practice of their ancestors in the days of the Peninsula and



USED AGAINST BRITISH TRENCHES IN THE GREAT WAR: A GERMAN TRENCH-MORTAR (CAPTURED NEAR NIEUPOORT).

contrivances, a longish distance is needed between the trenches if harm is not to be inflicted indiscriminately on the occupants of both.



## THE FIGHT AT THE CUTTING: AN ACTION IN GERMAN WEST AFRICA.

DRAWN BY R. CATON WOODVILLE, FROM A SKETCH BY A BRITISH OFFICER.



AT THE BROKEN BRIDGE: THE HAUSA MINONI AND HIS MASTER IN ACTION DURING THE ANGLO-FRENCH CAMEROON EXPEDITION'S BATTLE WITH THE GERMANS AT NLOHE, ON DECEMBER 6.

Describing the sketch from which this drawing was made, the British officer who sent it to us writes: "Action at Nlohe, on December 6, 1914. 2nd Lieut. Schneider, R.E. (on the right), killed, and Lieut. Luxford, 1st Nigerian Regiment, wounded, at Nlohe Bridge. They were reconnoitring the bridge (blown up by Germans shortly before) from the cutting on the south side, and were accompanied by Captain Charnley, 1st N.R., and Lieut. Luxford's Hausa orderly, Private Minoni, when they came under a murderous machine-gun fire from across the river. Minoni stayed by his master till the end of

the engagement, and then brought him in. Captain Charnley was able to return to his company, hotly engaged on all sides, and withdraw to the main body, which advanced and drove back the Germans, encamping at Nlohe Station the same night. The action began at 6 p.m. and lasted some two hours." Private Minoni, of the 1st Nigerian Regiment, has since been promoted Lance-Corporal for his bravery in remaining by his wounded master under heavy machine-gun fire and bringing him in after the action was over.—[Drawing Copyrighted in the United States and Canada.]



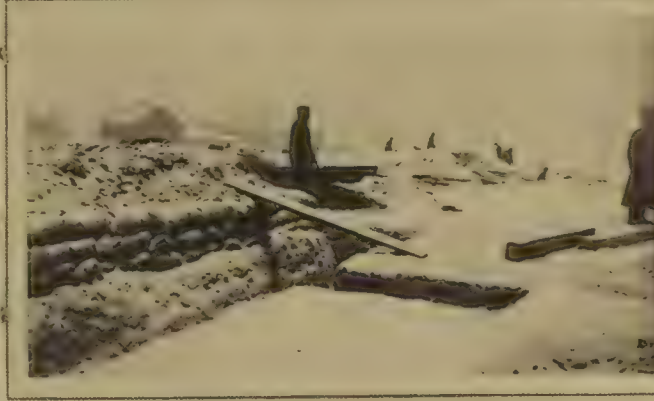
# THE GREAT STRUGGLE FOR WARSAW: WITH THE VICTORIOUS RUSSIAN ARMY ON THE BZURA AND ON THE VISTULA.



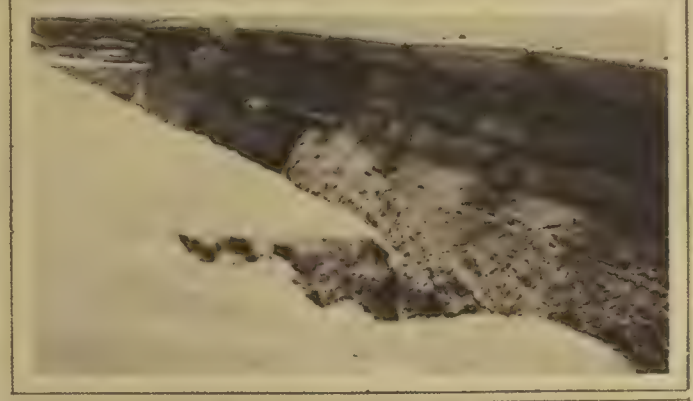
ONE OF FIVE LINES OF RUSSIAN TRENCHES BETWEEN THE BZURA AND WARSAW: PART OF THE TRENCHES AT BLONIE.



SOME OF THE OBSTACLES THE GERMANS WOULD HAVE TO CROSS TO REACH WARSAW: RUSSIAN BARBED-WIRE ENTANGLEMENTS.



"GROUND FORTIFICATIONS WHICH CANNOT BE IMPROVED UPON": A SECTION OF THE BLONIE LINE OF TRENCHES.



ILLUSTRATING RUSSIAN SKILL IN CONSTRUCTING SAND-BAG HEAD-COVER: TRENCHES AND SHELTERS IN THE BLONIE LINES.



MODELS FOR THE INSTRUCTION OF ANY ENGINEER OFFICERS: TRENCHES IN THE BLONIE LINES, SHOWING GOOD HEAD-COVER AND WOODEN SIDES.



A CENTRE OF FIERCE FIGHTING ON THE BZURA: A GENERAL VIEW OF SOCHACZEW.



A TOWN THAT HAS SUFFERED SEVERELY FROM THE GERMAN ATTEMPT TO REACH WARSAW: A STREET IN SOCHACZEW.



"ONE OF THE FINEST SOLDIERS IN THE WORLD": THE RUSSIAN INFANTRYMAN IN ACTION TRENCHES IN THE FIRING-LINE.



THE ADMIRABLE RUSSIAN TRANSPORT SERVICE: CROSSING A PONTON-BRIDGE OVER THE VISTULA.



KILLED IN THE LONG FIGHT FOR WARSAW: A BATTLEFIELD PHOTOGRAPHED WITHIN AN HOUR OF THE ACTION.



WITH THE ARMY WHOSE FIELD-KITCHENS CARRY HOT SOUP TO THE FIRING-LINE: A RUSSIAN TRANSPORT-TRAIN CROSSING THE VISTULA.

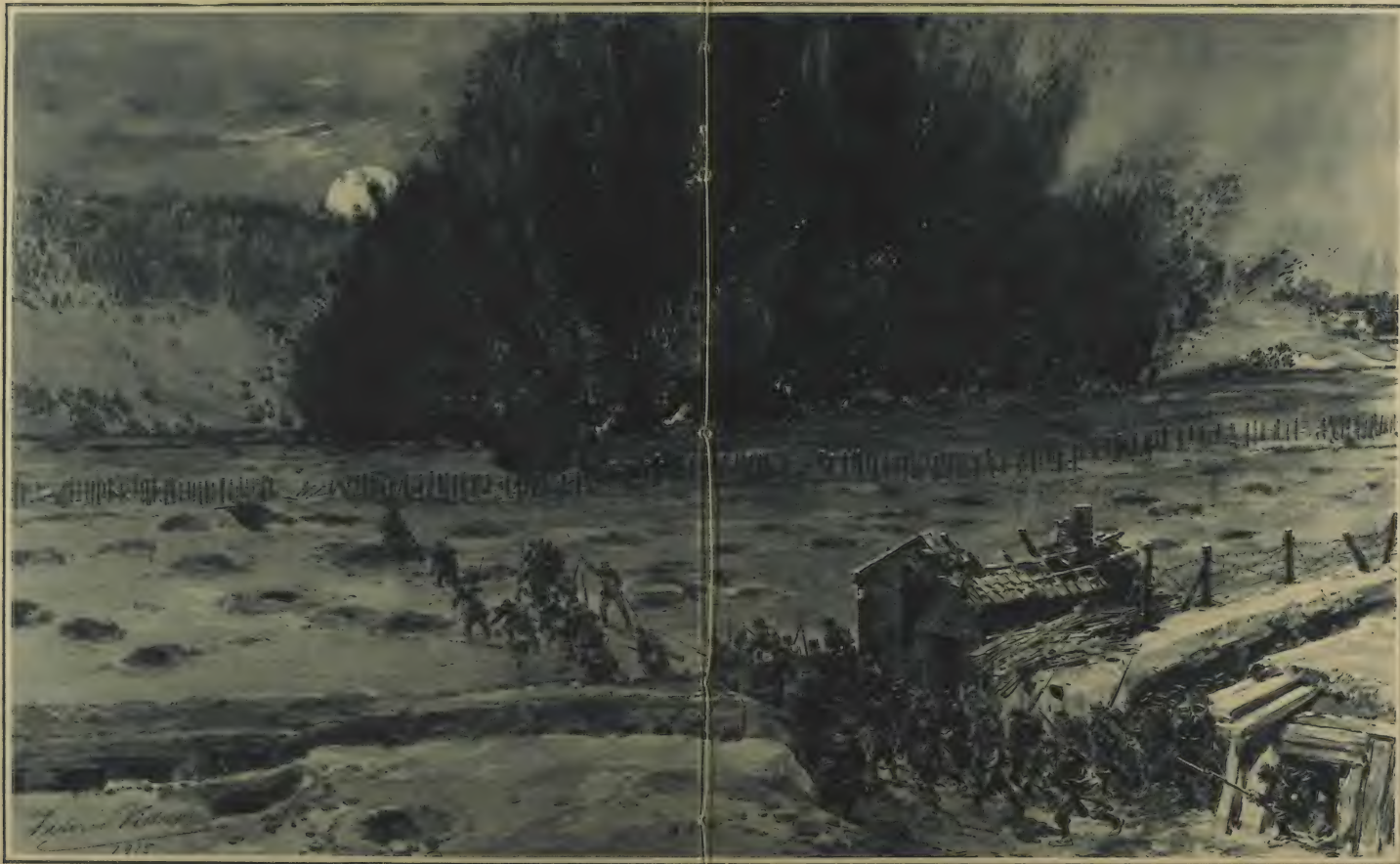
"England can put every confidence in her Ally of the East." With these words, Mr. Granville Fortescue, writing recently in the "Daily Telegraph," concluded a remarkably interesting appreciation of the Russian Army and the work of its various departments in the war, and of the characteristics of the Russian fighting-man. The Russian infantryman he describes as "one of the finest soldiers in the world," while he gives special praise to the work of the transport and commissariat services, and of the Engineers. "The most difficult problem of modern warfare, transport, has been successfully solved by the Russian Army. Allied to the transport department are the soup-kitchens. . . . The kitchens, which are, in a word, a stove and boiler on wheels, are driven at night right up to the trenches. In this manner the troops are served with a hot meal." Again, as to the important work of trench-construction:

"There is no better trench-builder than the Russian. I have made careful studies of the trenches known as the Blonie system, and they might serve as models for the instruction of any Engineer officers. The Russian is extraordinarily skilled in woodwork. He also seems to be a natural builder, and the ground-fortifications which he has constructed cannot be improved upon. The greatest care has been taken to get the proper field of fire. The head-cover of the trenches is hardly a foot above ground, and the loop-holes command the country for nearly a mile. The fields of high and low wire-entanglements are also built according to the latest accepted ideas." Blonie is some fifteen miles west of Warsaw, about half-way between that city and Sochaczew, on the Bzura, there flowing northward towards the Vistula. In the district round Sochaczew the Germans have made great efforts to break the Russian lines.



# "AT ONE POINT ON OUR FRONT WE HAVE GAINED GROUND": A FREQUENT METHOD OF ADVANCE IN SIEGE-WARFARE.

DRAWN BY FREDERIC VILLIERS, OUR SPECIAL WAR ARTIST, WHO WAS INVITED TO VISIT THE FRENCH LINES.



A METHOD WHICH HAS BEEN KNOWN TO BLOW FORTY MEN TO PIECES AT ONCE: A FRENCH LAND-MINE EXPLODED UNDERNEATH A SECTION OF GERMAN TRENCHES.

Describing this drawing, Mr. Frederic Villiers writes: "This illustrates blowing up sections of advanced trenches, a frequent incident of the week's work at the battle front. A mine explosion of this description embraces a considerable section of the enemy's entrenchments. Sometimes over a hundred men are involved in the upheaval. On one occasion, forty men were blown to pieces and eighty badly wounded. There is very little steam or smoke seen in the explosion. They are simply vast upheavals of earth and debris. In the official communiqués of both sides we read often of losing ground at certain points, or gaining ground at others. This is very often how it occurs." Some examples of the immense power of the explosives used in the war were given recently by "Eye-Witness" in his "descriptive account" published

on February 8. "A remarkable illustration of the force of explosives," he writes, "was afforded on January 25. Previous to assaulting, the Germans fired a mine under our front trench near the railway triangle to the east of Culochy. The explosion hurled a piece of rail weighing 25 lb. a distance of over a mile into a field close to where some of our men were standing. It is reported also that on the morning of February 1 the detonation of one of our hypodermic shells in the enemy's trenches on the embankment south of the canal threw a German soldier right across the railway and the canal amongst our men on the north side of the latter." The above drawing shows a mine bursting in German trenches, and, in the foreground, French troops leaving their lines to occupy the position. (Drawing Copyrighted in the United States and Canada.)



## A WHEELED SUBMARINE DESIGNED TO MOTOR THROUGH

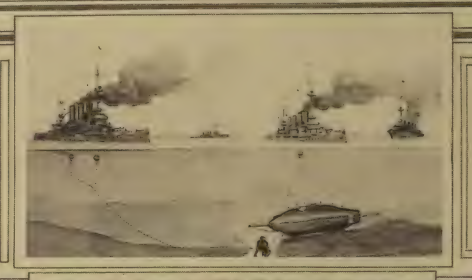
BY COURTESY OF THE

## MINE-FIELDS, LAY MINES, AND ENTER DEFENDED HARBOURS.

"SCIENTIFIC AMERICAN."

N.B.—The article shown below is a part of one written by Mr. Simon Lake and published in the "Scientific American."

**SUBMARINE**—BOATS should be devised into two classes: one, a torpedo-boat with an high surface and submerged speed as it is possible to attain, with a large radius of action, capable, if possible, of extending battle-ship speed when on the surface, so that it may intercept a battle-ship on the high seas and submerge in its path of approach before being discovered; the second class, consisting of smaller, slower-speed, mine-running submarines, with torpedoes and mine, and countermining features. Such submarines are essentially defensive; but if they have sufficient radius of action to reach the enemy's harbours and to lie in wait off the entrance to such harbours, or to enter submerged the harbours themselves and then destroy the enemy's craft, they have become potent weapons of the existing fleet. . . . To intercept a battle-ship at sea, even a high-speed submarine must lie in wait, perhaps for days or even weeks at a time. . . . It would have to wait a long time, also, for a battle-ship or fleet to pass sufficiently near to be headed off, especially if the submarine were easily submerged, because the moment the portage



MINES-LAYING WITH THE SIMON LAKE WHEELED SUBMARINE: A DIVER FROM THE CRAFT PLANTING MINES BELOW WARSHIPS, SHOWING THE TRUSS-CABLES ATTACHED TO THE SUBMARINE.



PASSING THROUGH A MINE-FIELD, THE SUBMARINE BURNS ALONG THE SEABED AND PUSHING THE ANCHORAGE CABLES ASIDE WITH THE GUARDS ATTACHED TO HER BOW.

appears above water the quarry will take to its heels, if it follows the latest ruling of the British Admiralty, "to steam away from the vicinity of submarines at full speed, even if it is necessary to abandon a torpedoed mine-ship and its towing crew to their own fate." I believe that this apparently herculean order is justified by the loss of the "Abasco," "Cressy" and "Hepes." . . . The principal means used in my mine-running submarine are the bottom wheels and diving-compartment, which were incorporated in my 1893 design, which also carried my pioneer features of lateral hydroplanes to get even keel submerged; high, water-tight superstructure, which is the keel, and the keel, consisting of submarine; anchors, and lifting and lowering instruments. Empowering the bottom wheels and diving-compartment, most navies have now incorporated these features in their submarines. Three navies have adopted the bottom wheels, etc. These mine-running craft are able to enter the enemy's own territory with impunity and destroy his merchant ships and warships in their own harbours. . . . In 1903, former President Taft, then Secretary of War, appointed a Board of Officers. . . . who reported: "It will give the nearest approach to absolute protection, now known to the board. . . . The boat can lie in for an indefinite time adjacent to the point to be defended in either cruising, or, on submerged condition, by its anchors, or on the bottom ready for instant use, and practically independent of the state of the water, and in telephonic connection with the shore, or can patrol a stretch or unwatched channel, available to the enemy and able to destroy or torpedo at all times." For the attack, the boat shows great superiority over any existing means of attacking mine-fields known to the board. First, it can be run by any field as at present installed, with but little danger from the explosion of any particular mine or from gun-fire, during the few seconds it exposes the lightning-bolt for observation, and can attack at its pleasure the vessels in the harbor. Second, it can also be personally witnessed the ease with which cables can be gripped, raised, and cut while the boat is manoeuvring on the bottom; mine-cables can be swept for, found, and cut, or a diver can be sent out for that purpose." The necessity of such features as bottom-wheels and diving-compartment is now being brought out in the present war. I believe the mine and countermining features must be incorporated in one type before the submarine reaches its full development. . . . The mine-running submarine can enter with comparative safety through a mine-field, like a shuttle passing through the web of cloth

THE LAKE SUBMARINE TORPEDO—THE CRAFT

during the weaving process. . . . and it is a fact that cannot successfully be disputed technically, by any one, that a submarine of the type recommended by the United States Army Board may be taken into any harbor in the world entirely unseen, and remain there, if necessary, for a month at a time, and destroy shipping, docks, and war-craft deliberately and silently, and defy discovery. My method of entering harbours or through mine-fields consists principally in providing submarine-vents with bottom wheels and other component undisturbed details. When submerged the vessel is given sufficient negative buoyancy so that she will not be drifted off her course by the currents when resting on the bottom. The vessel in what might be termed a submarine automobile, and it may be navigated over the bottom as readily as an automobile on the surface of the earth. The submarine-automobile has one great advantage over the surface type in its ability to mount steep grades or go over obstructions, because the vessel is so nearly buoyant that she will mount any obstruction she can get her bow over. My early experience proved to me that a submarine could not be satisfactorily navigated submerged in shallow, rough water by the same method of control as was found to be satisfactory in deeper water, for the reason that the vessel would pump up and down with the rise and fall of the sea. Neither could the vessel lie at rest on the bottom, in the fall of the ground-level in bad weather was sufficient, even with a considerable negative buoyancy, to cause the vessel to pound so badly that the stanchionary plates would be destroyed in a few minutes. I therefore suspended the wheels on swinging arms and applied a cushioning cylinder. The hull of the vessel was free to move up and down, stretching, with the lift of the ground-level, and at the same time the weight of the wheels kept the submarine close to the bottom and able to keep her position while at rest or to be navigated over the bottom at any speed desired. . . . Lake-boats, fitted with bottom wheels, have, in a competitive test abroad, entered land-locked and fortified harbours without discovery, where the entrance from the sea has been through a turbulent channel. . . .

In tests carried out in Russia the boat fitted with bottom wheels simply wheeled along in the channel at slow speed and stopped and heeled to change course at will. The revolutions of the bottom-wheels gave the distance travelled, the manometer gave the depth, and the compass the proper direction; consequently, with a current chart as to course and depth, navigation on the bottom in entering harbours is very much easier than on the surface, unless the channels are well buoyed.

BOAT AND MINE-DEVELOPER IN SECTION.

to absolute protection now known to the Board. The boat shows great superiority over any existing means of attacking mine-fields at all points installed, with but little or no danger from the explosion of any particular mine or from gun-fire. The Board personally witnessed the ease with which cables can be gripped, raised, and cut while the boat is manoeuvring on the bottom; mine cables can be swept for, found, and cut, or a diver can be sent out for that purpose. Briefly, all this means that the craft armed for immediate sale can enter through any mine-field and torpedo the enemy's ships within the harbours or water of these fortifications and mine-fields. Lake Torpedo Boat Co. After the test mentioned in the article above, Congress failed to provide for the purchase of vessels of the type, although, says the inventor, repeated recommendations were made by the General Staff to do so; consequently the "Preston" was added to another fleet. With regard to Illustration No. 1, and, as the mines are planted below the warships by a diver, who emerges through a trap-door in the submarine. At a given hour, in a certain state of the tide and current, every ship will be above a mine-field. The firing-cables are fed to the submarine, which detonates the mines simultaneously.

Most mines, as at present installed, are either of the observation or contact type; the observation mines are fired usually from shore-batteries when the enemy is seen, to be over them, while the contact-mine is anchored a few feet beneath the surface. . . . The European belligerents have put out contact-mines to protect their capital ships from the submarine. The dread of these mines is holding the submarines outside of the mined areas, and the mines are, therefore, useless. None of the British vessels are fitted with bottom wheels and diving-compartment, and they must be navigated at such speed, to keep submerged control, that they would require a construction of either the mine or the anchor-boat was touched. This also applies to some of my later boats, as the bottom wheels have been omitted for greater speed. I am inclined to the belief that this has been more or less of a mistake, because the bottom-wheeled submarine can go to and 'dig' the enemy out of its base, in addition to hunting the big surface craft of the enemy on the high seas. With the bottom wheels, navigation can be conducted so carefully over the bottom that inspection of the course can be made, if desired, fast by foot, as present is made, and all mines can be avoided. . . .



THE LAKE SUBMARINE ON WHEELS PASSING BELOW A HARBOUR DEFENCE; THE CRAFT TRAVELLING ALONG THE SEABED, AND ITS PROJECTING ARMS LIFTING THE NET, WHICH SLIDES OVER THE BOAT.



AFTER THE MAN HAS EMERGED THROUGH A TRAP-DOOR IN THE FRONT OF THE CRAFT, A DIVER FROM THE SUBMARINE PLANTING A MINE FOR USE AGAINST WARSHIPS.

Naturally enough, in view of the German proposal to "blackade" the British coast by submarines, more especially, under-water craft of all kinds are much under discussion. Particular interest is being taken at the moment in the "submarine torpedo-boat and mine-destructor" invented by Simon Lake. The "Mata" accuses Kropky of having divulged secrets of this boat to Germany; and adds to the statement that, as a consequence, the German submarine in its present Coast Britain are after plans by the famous American designer. More will, no doubt, be heard of the discussion. Meanwhile, the Lake Torpedo-Boat Company, of Bridgeport, Connecticut, have had in the past several years, and are now, a small reproduction of which we give at the bottom centre of this double-page. The reproduction in question we make by courtesy of the Lake Torpedo-Boat Company. The wording under the illustration was as follows: "The Lake—Submarine Torpedo-Boat and Mine-Destructor. Price, per ton, to Government, \$100,000.00. Delivery immediately. Several sister-craft have been transported across Atlantic upon order of freighter. Specifications upon request. A Government Board reported upon a submarine: 'It will give the nearest approach



# A DUEL IN THE AIR: A PHOTOGRAPH OF AN AERIAL FIGHT.



A FRENCH BIPLANE CHASING A GERMAN BIPLANE: THE PURSUIT OF THE ENEMY IN MID-AIR SNAPSHOTTED  
BY THE OBSERVER IN A FRENCH AEROPLANE FLYING BELOW.

It was some little time before the value of air-craft in war, especially as a means of obtaining intelligence of the whereabouts of the enemy and for the directing of gun-fire, was fully recognised, but to-day it is so highly estimated that it is often the cause of an actual duel in the air, such as that by which the daring French aviator, Gilbert, recently won his Cross of the Legion of Honour, by bringing down a German near St. Quentin, when his observer shot the German observer, but the pilot escaped with a bad fall, and

was chivalrously treated by M. Gilbert. In our illustration, which is a reproduction of an untouched enlargement of the actual photograph taken by a French aviator from an aeroplane below the German biplane, the French biplane is seen above, to the left, starting in pursuit of the German (an A.E.G. biplane). Things aeronautical have developed since Carlyle described the French captive-balloon used at Fleurus in 1794, for observation purposes, and the Austrian cannon barking at it, "harmless as a dog at the moon."



## DEAD ON THE FIELD OF HONOUR: OFFICERS KILLED IN ACTION.

PHOTOGRAPHS BY SWAIN, ELLIOTT AND FRY, SPEIGHT, LAFAYETTE, RUSSELL, VAN TROIG, HAWKES, DICKINSON, SALMON, WESTON, DOVER STREET STUDIOS, HEATH, AND DYSON.

CAPT. MAURICE H. HELYAR,  
RIFLE BRIGADE.MAJOR G. J. RYAN,  
RY. MUNSTER FUSILIERSCAPT. HAROLD C. RICHMOND,  
GLOUCESTER REGIMENT.2ND-LT. ERNEST J. MUNBY,  
E. ANGLIAN FIELD CO. R.E.CAPT. CYRIL H. WICKHAM,  
ROYAL FUSILIERS.LIEUT. D. E. PERSSE,  
ROYAL DUBLIN FUSILIERS.VISCOUNT NORTHLAND,  
COLDSTREAM GUARDS.LIEUT. H. I. VANDELL,  
NORTHAMPTONSHIRE REGTLIEUT. W. L. RINGROSE HATCH  
ROYAL IRISH FUSILIERS.LT.-COM. W. ST. J. FRASER,  
ROYAL NAVY.SUB. LT. F. MONKS, R.N.,  
H.M.S. "VIKNOR."2ND-LT. M. E. CALLARD,  
LOYAL NORTH LANCS. REGT.LIEUT. H. S. KEATING,  
IRISH GUARDS.2ND-LT. H. C. CHADS,  
NORTH STAFFS. REGT.LIEUT. ALLEN H. SELWYN,  
ARMY SERVICE CORPS.LIEUT. G. E. BURDEKIN,  
SHERWOOD FORESTERS.2ND-LT. E. A. BEAUCHAMP,  
COLDSTREAM GUARDS.

Our portraits this week include that of Captain Maurice H. Helyar, son of Mr. and the Hon. Mrs. Francis Helyar, and grandson of Viscount Sidmouth. Captain Harold Christopher Richmond served in the South African War, and was awarded the Queen's Medal, with four clasps. 2nd Lieut. Ernest John Munby was at one time with Lord Cowdray, engaged in important engineering undertakings. Viscount Northland was the eldest son of the Earl and Countess of Ranfurly and was extremely popular. He married, in 1912, Hilda, daughter of the late Sir Daniel Cooper, and had two little sons. Lord Ranfurly counts among his ancestors William Penn, the founder of Pennsylvania. Lieut.

Henry Ivanhoe Vandell was in the trenches at the Aisne, and also took part in the fighting in Flanders. Lieut.-Commander W. St. John Fraser, who lost his life on naval service in the North Sea, was the son of Sir Thomas R. Fraser, M.D., of Drumheugh Gardens, Edinburg. Lieut.-Commander F. L. Coplestone, who also lost his life on naval service in the North Sea, was the son of Mr. and Mrs. Coplestone, of Barrel Well House, Chester. Lieut. Harry S. Keating was the grandson of the late Right Hon. Sir Henry Keating, and of Lady Ward, of Cadogan Gardens. 2nd Lieut. Edward A. Beauchamp was the elder son of Sir Edward Beauchamp, Member for North Suffolk.



## SCIENCE &amp; NATURAL HISTORY

## SCIENCE JOTTINGS.

## WAR AND THE FUTURE OF THE RACE.

It has repeatedly been dinned into our ears during the last decade that war is an unmitigated calamity for mankind, and that the nation which engages in it, even if victorious, must receive wounds from which it takes many years to recover. This doctrine is naturally very popular among capitalists and factory-owners, whose ideal state is one where the ignoble many toil at the smallest wage for the exclusive benefit of the rich, rather than noble, few. It may be doubted, however, whether it is really borne out by science, and whether war, when not too prolonged or destructive, does not give back to the nation more than it takes out of it. This view of the case is foreshadowed, though hardly demonstrated, in the address lately delivered by Professor Anatole Chauffard, of the Académie de Médecine, to the Alliance d'Hygiène Sociale, under the Presidency of Pasteur's successor, Dr. Roux.

In the first place, the moral effects of a vast war, such as that which we and our Allies are at present waging, have to be considered. Something like a twelfth part of the male population is withdrawn by it from civil life, and has to work actively for the safety or, it may be, for the honour of their country. As the great majority of this twelfth are necessarily drawn from the youth of the proletariat, who, till then, have been too much engaged in an unceasing struggle for the necessities of life to give much thought to anything else, there is thus brought home to many of them, for the first time, the fact that there are things in this world worth striving for besides a sufficiency of food and drink. The importance of subordination and order, the necessity of standing by one's comrades even at the risk of one's own life, and even the value of such abstract and intangible things as the honour of a regiment, thus come as a new revelation to many of our soldiers.

Not less striking are the advantages of life with the colours on the physical side. In youth, or early manhood—in any case when the frame is not too firmly set to be beyond the power of education—the soldier is freed from the care of attending to his own sustenance, and is

nourished on a sufficiency, or even an abundance, of the diet which is not the most pleasant, but the best fitted for him. At the same time, the power of his muscles and nerves is systematically and scientifically developed, he is well and warmly clothed and shod, and he is made to pay attention to personal cleanliness, and to all that is summed up in the word hygiene. If the precautions dictated by the best scientific

opinion in Europe are observed, as they should be in all armies, he is, in addition, protected by inoculation against those particular diseases which in civil life take so large a toll of him and his kind, and in some cases—that of small-pox, for instance—the immunity thus conferred lasts for a considerable number of years. It is not too much to say that, if he escapes serious and permanent injury by the regular risks of war, he returns to civil life twice the man he was before he enlisted.

Let us now see what effect this is likely to have on the future of the race. The soldier is, by the practice of all nations, chosen out of those of the race who are physically the best fitted to perpetuate it. The blind, the deformed, and the insane, who under our present system of government are not debarred from marriage, are yet by their very afflictions excluded from the ranks of the Army. The soldier's body is well nourished and tended at that period of its existence when nourishment and care have the most effect, is strengthened by careful and judicious exercise, and is hardened by exposure to the necessary conditions of war. At the same time, his mental qualities are developed on the side of alertness and the intelligent comprehension and execution of orders, he has to show himself prompt and resourceful in emergency, and there are held before him ideas neither ignoble nor ill-adapted for the welfare of the race. Much nonsense has been talked in this country of late about eugenics, and it may be doubted whether moral or mental qualities are always or often inherited; but it might be confidently put to any breeder of stock whether he would not prefer to any other, as the father of future generations, an animal reared under such physical conditions.

Professor Chauffard also touched on another side of the question. The falling-off—or, to speak by the card, the arrest—of the increase of the population among highly civilised nations is one of the most serious questions hitherto confronting them; but the war may do something to solve it. Women, as we all know, admire the brave and virile, and the soldier, with or without a pension, should therefore find marriage more within his reach than if he had always remained a civilian.—F. L.

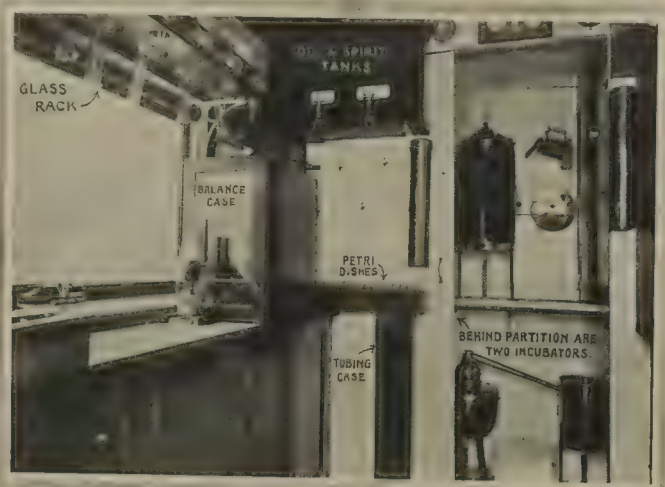


FIGHTING BACTERIA ON THE BATTLEFIELD: A VIEW OF THE INTERIOR OF THE PRINCESS CHRISTIAN MOTOR BACTERIOLOGICAL LABORATORY.

As we have noted in "The Illustrated London News" before, a motor bacteriological laboratory has been presented, anonymously, to the War Office, for service at the front. A motor-cyclist attends it, for proceeding near the fighting-line and bringing samples of bacteria for examination. The laboratory, which, as our photograph shows, is excellently equipped, cost £2000, and is of 25-30-h.p. The whole of the interior was designed and constructed by Messrs. Baird and Tatlock, Ltd. The Petri dishes are used for growing cultures. The centrifuge, which is revolved by hand, so that it makes 3000 revolutions a minute, is used to separate foreign matter from the bulk.



FROM THE FRONT-END, LOOKING TOWARDS THE DOOR: THE INTERIOR OF THE MOTOR BACTERIOLOGICAL LABORATORY.

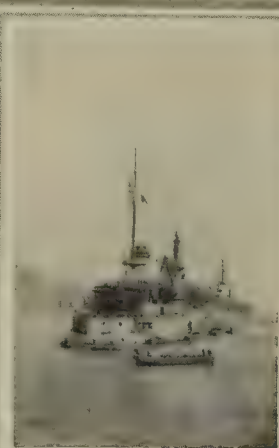


FROM THE LEFT-HAND SIDE, LOOKING FROM THE DOOR: THE INTERIOR OF THE MOTOR BACTERIOLOGICAL LABORATORY.



# THE CAMERA AS CORRESPONDENT: WAR NEWS BY PHOTOGRAPHY.

PHOTOGRAPHS BY ILLUSTRATIONS BUREAU, C.N., WOLF, SPORT AND GENERAL, AND L.N.A.



"MALTA AS A SECOND TOULON": PART OF THE FRENCH FLEET THERE.



THE SPEEDY SUPPRESSION OF THE LITTLE REBELLION IN SOUTH AFRICA: THREE OF THE LEADERS BEING MARCHED TO PRETORIA AS PRISONERS.



AUSTRALIA'S SECOND CONTINGENT OFF TO THE FRONT: LEAVING MELBOURNE.



ANNOUNCER OF THE GERMAN "BLOCKADE" OF BRITAIN: ADMIRAL VON POHL.



DECORATED BY KING ALBERT WITH THE ORDER OF LEOPOLD: LADY DOROTHE FEILDING.



THE GERMAN WHO "IMPRISONED" CARDINAL MERCIER: GENERAL VON BISSING, IN BRUSSELS.



LESS PICTURESQUE THAN BEFORE: FRENCH ZOUAVES IN THE NEW WAR UNIFORM.



TRANSPORTED WITH EASE: A COLLAPSIBLE WOODEN MILITARY HUT WHICH IS UNDER CONSIDERATION BY THE WAR OFFICE.



IN HIS NEW WAR UNIFORM: A FRENCH ZOUAVE OFFICER.

Our first illustration shows part of the French fleet at Malta. "When the war began," said Mr. Churchill in a recent interview in Paris, "I chatted with the chiefs of your Navy, and when we had made our arrangements, I said to them: 'Malta will be your base. Consider Malta as a second Toulon.'" Our second illustration shows South African rebel leaders—Captain Denysen (first of the three men on foot), and two relatives, being escorted to Pretoria by a mounted patrol.—Our third illustration shows the second Australian Contingent marching through Melbourne on December 17, when starting for Egypt.—Admiral von Pohl is the Chief of the Staff at the German Admiralty who signed the notification of Germany's intention to "blockade" the British

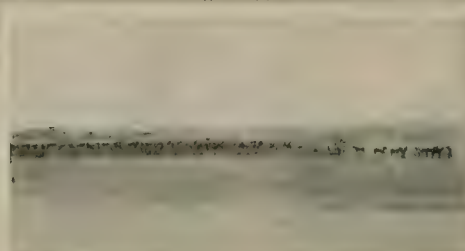
Isles.—Lady Dorothe Feilding, daughter of the Earl of Denbigh, is doing active and useful work with the Munro Flying Ambulance, and has been honoured by King Albert with the Order of Leopold, the highest Belgian decoration.—General von Bissing is the German Governor-General of Belgium, who "imprisoned" Cardinal Mercier. He is seen in his office in Brussels.—Illustrations Nos. 7 and 9 show a Zouave officer and two privates in the new grey-green field uniform which has replaced the blue coat and *pantalons garances* the French Army has worn for seventy years in peace and war.—Illustration No. 8 shows a newly designed collapsible wooden military hut. It is 22 feet long, 14 feet wide, 15 feet to the pitch of the roof, and can take fifteen soldiers.



# THE FIGHT FOR THE SUEZ CANAL: SCENES OF THE TURKISH DEFEAT.



SHOWING THE POINTS ATTACKED BY THE TURKS—EL KANTARA, ISMAILIA, TOUSSOUM AND SERAPEUM: THE SUEZ CANAL, FROM PORT SAID TO SUEZ.



WHERE THE TURKS ATTACKED THE BRITISH OUTPOSTS AND WERE DRIVEN OFF WITH LOSS: THE CAMP AT EL KANTARA.



AT THE CANAL TERMINUS OF THE CARAVAN ROAD FROM EL ARISH AND SYRIA: ANOTHER VIEW OF EL KANTARA CAMP.



A BRITISH OUTPOST: A LITTLE CAMP ON THE BANK OF THE SUEZ CANAL.



WHERE THE ENEMY WERE FOUND ENTRENCHING NEAR THE BRITISH LINES: THE FERRY AT ISMAILIA.



WHERE TWO TURKISH BATTALIONS OPENED FIRE WITH RIFLES: THE ISMAILIA FERRY.

The official account, issued at Cairo, of the fighting on the Suez Canal on February 3, said: "Toussoum post was attacked at 3 a.m. by the enemy's infantry, and at the same time a determined attempt was made under cover of heavy Maxim fire to cross the Canal by means of pontoons and rafts. At daybreak the enemy were seen advancing. Their artillery fired on Toussoum and Serapeum, and was answered by our artillery and the fire from our ships. After a certain amount of fighting, including an advance from Serapeum, the enemy retired at 3.30 p.m. . . . At the Ismailia Ferry at daylight the enemy were

found entrenching 700 or 800 yards from our posts. Two battalions fired on us with rifles. During the day there was intermittent fire, but no infantry attack. At El Kantara our outposts were attacked between 5 and 6 a.m. The enemy were driven off." A later official announcement stated: "Evidently the engagements of the past two days were more important than was at first imagined. The enemy left on the field more than 400 killed, and 600 prisoners were taken. Allowing five wounded for each man killed, this would give a probable total of at least 2400 casualties, exclusive of the prisoners taken."



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## Men's Shoes for Spring

A long way to Spring yet, it is true, but not too early to decide upon one's new outfit and whether the choice is to be boots or shoes. Certainly there is much to be said for shoes, and in Spring, too, they come into their own. Their greater lightness and buoyancy, that feeling of escape from restraint which they give, all help to feed the eternal human desire for more freedom, that arrives with the first swallow. And Delta shoes give so trimly and snugly round the ankle and at the heel that one feels in them no sudden slackness and sloppiness after changing over from boots. In fact, they combine the comfort and hard-wearing qualities of boots together with the lightness, freedom and comparative inexpensiveness of shoes.

Letters

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## MONTE CARLO.

WARS and rumours of wars have certainly deprived the French Riviera of many of the attractions sketched out by the management of the Casino with a most liberal hand. A most seductive programme had been proposed for the sporting gunners who come from all parts of Europe, and one may say from every quarter of the globe in the hope of being able to hand their name down as champions of that old-fashioned sport which has taught many who are now at the front to shoot quickly and straight. Opinions differ as to pigeon-shooting: while some of our English society leaders have reproved the pastime, they do not disapprove of the butcher in his smock who slays the lamb and calf, bled to death that the meat may be white and toothsome. The annals of the rough-shooting ground at Mont Agel, where the golf links of Monte Carlo have been created, could tell how many of the gentler sex might have been seen a year ago, with gun on shoulder, roaming over the ground, eye alert for any game which might cross their path. All hopes of shooting have had to be abandoned. In the first place, the importation of pigeons was prohibited by the military authorities, who thought that the Germans had enlisted too many in their service of espionage for the purposes of their informants by pigeon-post. In the second, the Commandant of the Fort at Mont Agel stolidly set his face against the discharge of firearms on the plateau. Sport with the gun thus became impossible. The only outdoor sports tolerated were on the links and in the tennis-courts, the latter up to the present having received most patronage from their vicinity to the Casino, where Plutus lures so many in the

hope of becoming adopted children of Fortune. Even here the ruling powers were doomed to disappointments, for the engagements of lyric and dramatic stars for the entertainment of visitors, made many months in advance, had perforce to be cancelled. The men had to rejoin their regiments; the women of France surrendered lucrative engagements to serve their country under the Red Cross banner. All hope has not, however, been abandoned of

of the famous Maestro Ganne, the composer of "Le Père de la Victoire," which has been adopted as extensively as the famous "Marseillaise," and brings the audience to their feet to accompany the war hymn with heart and voice. Baccarat and bridge are at hand in the International Sporting Club; while you have roulette and trente-et-quarante in the Rooms at the Casino. There the two amiable neighbours, or adjoining numbers, "15" and "19," are well patronised by the superstitious who, combining them, read "1915" as the year of the defeat of Prussian militarism.

Visitors who cherish memories of the Monte Carlo of former times, when long walks could be undertaken with pleasure, when the promise of a mountain excursion was looked forward to as a treat, will find their morning promenade on the terrace unmolested by the German element which a year ago tended to shoulder out the English, who really discovered the Riviera. There is little save in our hearts to remind us here of the War—the severely wounded are unable to stand the long journey. With the exception of two hotels taken over, one by the Prince of Monaco and placed at the service of convalescing English officers, and the Hotel Alexandra, there is nothing to remind one that the struggle of the century is being carried on, except when, now and again,

an autocar brings over a few khaki-clad warriors to sun themselves on the terrace or in the gardens, or to listen to the concerts in the Casino. There they have access, although the portals of the famous Rooms are rigorously closed against all belonging to the Expeditionary Force. Monte Carlo is happy without the Germans, and with the decrease in charges at the hotels there is certain to be an increase of visitors, glad to journey to a warm spring climate rather than winter in London.



WHERE ONE CAN HAVE RECREATION, REGAIN HEALTH, AND FORGET THE HORRORS OF THE WAR: ON THE TERRACE AT MONTE CARLO.

providing a certain amount of entertainment beyond the very successful concerts and selections from popular operas given under the direction of talented leaders from Belgian artistic centres. Possibly in March, M. Raoul Gunsbourg, who has secured the services of Signor Caruso, may be able to gather round the popular tenor sufficient lyric talent to support him worthily.

The old times at Monte Carlo have been revived. Each evening at nine there is a free concert under the leadership

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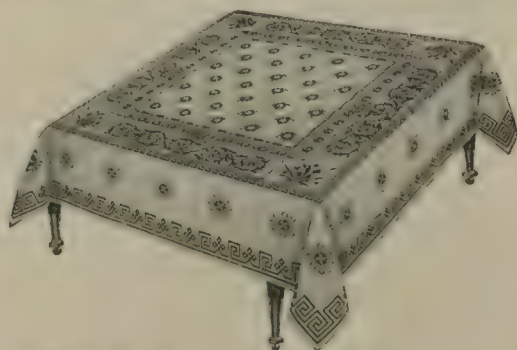
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PILLOW CASES TO MATCH.  
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BUCHANAN'S SCOTCH WHISKIES ARE WELL-MATURED AND PERFECTLY BLENDED. THE VAST STOCKS HELD IN SCOTLAND ENSURE AN UNFAILING SUPPLY OF THE SAME FAULTLESS QUALITY.



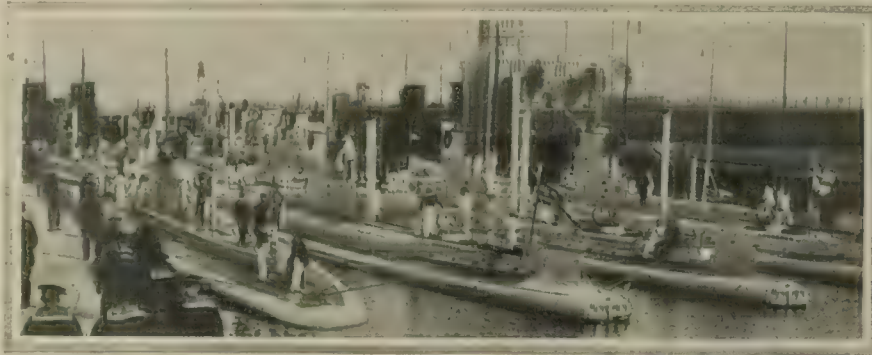
## THE LAND OF CLIVE.

THE interest taken in India nowadays is so general that a new book by such a well-known writer as Mrs. Penny will be widely welcomed, although it treats not of the India of the North, the home of the fighting races who are so well upholding their old renown in France, but of the hot South, the India which Clive and Wellesley conquered and which we read of in the books of a hundred years ago. "Southern India, Painted by Lady Lawley, Described by F. E. Penny" (Black), is less a description of the country than an interesting account of the races which inhabit the peninsula, and Lady Lawley's dainty water-colour sketches bring the people vividly before the reader. Several of the natives pictured were servants of Sir Arthur Lawley when Governor of Madras, and are perfect types, notably the fat old head butler, in whom many past residents of Madras will recognise an old acquaintance. Some fine specimens of the fighting Mussulmans of the Deccan show that the old warrior races of the South are not yet extinct; and the paintings include typical men, women, and children of many castes—artisans, tradesmen, religious mendicants, and villagers, besides street scenes and a few beautiful landscapes. Mrs. Penny has much to tell us of the religion, customs, and daily life of the people. In two delightful chapters she takes the reader to the cool highlands of the Nilgiris, where she tells of the strange remnants of lost races who yet haunt those hills—the Todas, among whom polyandry still survives, and the Kurumbas, now a scanty tribe of hunters, but in prehistoric days a mighty nation, who use small gold coins, stamped only with a dagger as found to this day all over Southern India. A strong belief in their magical powers is the only memory which still haunts of their ancient greatness. Another chapter treats of Mysore, the land where Wellington learnt his early lessons in the arts of war and statecraft, and tells of Haider and his son Tippee, who were really not such ruffians as Mrs. Penny describes. In



HOW OUR SAILORS ARE CLAD FOR KEEPING THE SEA: MEN OF A NORTH SEA BATTLE-SHIP IN WINTER GARB.

These seamen look more like members of the Shackleton Antarctic ship's crew, than men-of-war's men. They are seen wearing the thick "duffle" suits served out to the ships of Sir John Jellicoe's fleet. The suits are made of very thick and warm material which can stand hard wear and inclement weather.



CRAFT WITH WHICH GERMANY PROPOSES TO "BLOCKADE" ENGLAND: SUBMARINES AT WILHELMSHAVEN.

Germany is understood to have possessed some thirty submarines when the war broke out. Some of them are known to have been destroyed, but to replace them there were vessels on the stocks last August. Others have been begun since then. The latest set of German boats have a surface-speed of about 16 knots, and 20 or 22 knots submerged. [Photo, by Record Press.]

cruelty and tyranny they were no worse than their neighbours, while as broad-minded and progressive rulers they were far ahead of any Indian Princes of their day. It is a pity that the authors have omitted to deal with the western seaboard, where the tribes of Malabar, Cochin, and Travancore are well worthy of their brush and pen; but the book will not fail to delight both those who know Southern India and those who wish to learn more of a picturesque land and people.

That rollicking farce, "Are You a Mason?" which has the merit of possessing a story as well as most laughable situations, is just the sort of piece to revive in days of stress such as the present. There is a laugh in almost every minute of its action, and laughter is good for us all just now. There is method, too, in its madness, and even farce is all the better for having some definiteness of scheme. A capital cast has been engaged for the production; to say that it includes Mr. Dagnall, Mr. Ronald Squire, Mr. Spencer Trevor, Miss Dulcie Musgrove, and, above all, Miss Marie Illington, the comedienne who excels in the portrayal of domineering wives, is to imply that not the smallest possibility of fun is overlooked.

It is interesting to know that a large number of our officers and men at the front carry their own personal medicines. They are of various kinds, but all are in the form of thin gelatine sheets (called "Lamels") divided into twenty-four squares, each of which contains an ordinary dose of the particular medicine with which the sheet is impregnated. When a dose is required, it is only necessary to tear off from the sheet (as you would a postage-stamp) one of the squares and swallow it. The makers and inventors of these ingenious sheets are Savory and Moore, London. A small letter-case, made for the purpose, will hold twelve sheets, or 288 doses. Apart from lightness and portability, all danger which would arise from having glass bottles on your person when fighting is avoided.

## At First Signs Of Dandruff

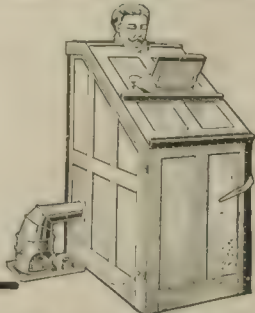


## Use Cuticura Soap Shampoos

And light touches of Cuticura Ointment. They remove dandruff, and promote hair health.

### Samples Free by Post

Cuticura Soap and Ointment sold everywhere. Sample of each with 32-p. book free from nearest depot: Newbery, 27, Charterhouse Sq., London; H. Towns & Co., Sydney, N.S.W.; Lennon, Ltd., Cape Town; Muller, Maclean & Co., Calcutta and Bombay; Potter Drug & Chem. Corp., sole props., Boston, U.S.A.



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All the delights and benefits of every form of Hot Air, Vapour, Perfumed, and Medicated Baths can be enjoyed privately, economically, and with absolute safety in your own room. Our Patent Folding Cabinets embrace every desirable feature, and possess several exclusive advantages, such as—

Efficient and Absolutely Safe Outside Heater; Adjustable Seat; Heat Regulator; the Bath is not fastened by the neck to the Cabinet; Exit is easy and immediate—no assistance is required; Durability and Perfect Hygiene.

Prices from 35s. Write for "BATH BOOK," No. 7. J. FOOT & SON, Ltd., (Dept. B 7), 171, New Bond St., London, W.



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THE RELIABLE MEDICINE.

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Always ask for a "Dr. Collis Browne."

## THE MEXICAN HAIR RENEWER.

Do not let Grey Hairs appear.

Restores Grey or White Hair to its original colour, where the glands are not destroyed. Prevents Dandruff, and the Hair from coming out. Restores and Strengthens the Hair.

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saves 1/2 your cocoa because it is double strength

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## BURLINGTON

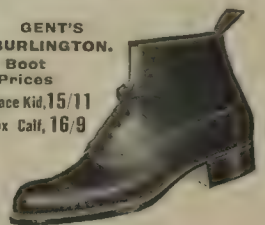
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At all chemists 4/3 a tin.





# The English Venus

ATTRIBUTES HER BEAUTIFUL SKIN TO VEN-YUSA.

THE best authorities on toilet matters unite with the leaders of Society in acknowledging the supreme excellence and novelty of Ven-Yusa Crème de Luxe.

Read what Miss Beatrice Sinclair, known to fame as The English Venus, and well-known writer on beauty and toilet subjects, has to say about Ven-Yusa after critically examining it and comparing its wonderful qualities with the limitations and drawbacks she has experienced with old-style face creams.

41, Seymour Place, Marble Arch, W.

Gentlemen,—You may be interested to hear that I am using your Ven-Yusa Crème de Luxe in preference to all others. I suppose it is the fact that it is charged with life-giving oxygen that makes Ven-Yusa impart a delightful young feeling to the skin such as I have never experienced before.

By its systematic use the skin texture is rendered peach-like in quality, and a natural beauty of complexion developed.

I also find Ven-Yusa far superior to the old-style face creams, in that it leaves no suspicion of stickiness or greasiness.

Ven-Yusa is evidently free from mineral salts such as alum, that gives a drawing sensation immediately it is applied, which means, of course, that the skin is being stretched and injured, as reaction is bound to set in.

Indeed, this greaseless Ven-Yusa must be most beautifully refined in order to have the singularly agreeable influence it does have on the skin. It is most invigorating and delicious, and I think it should form part of every lady's daily toilet. I have had a fair experience of face creams of all sorts, and in my judgment Ven-Yusa is the perfect skin dressing at last.

Yours, etc.,

Beatrice Sinclair  
(The English Venus)

The novelty about Ven-Yusa is that it brings direct to the dressing-room and boudoir the rejuvenating and complexion-clearing properties of pure oxygen. Ven-Yusa thus has an unparalleled beautifying effect on the skin.

Ven-Yusa is prepared from far purer ingredients and by costlier methods than obtain in the production of the old-style toilet creams. Ven-Yusa is the acme of refinement and novelty, and is based on an intimate study of the human skin.

Ven-Yusa is non-greasy.



MISS BEATRICE SINCLAIR  
(From an Exclusive Photograph).

# VEN-YUSA

The Oxygen Face Cream

Ven-Yusa has rare qualities never associated with a mere face cream. It is sold only in dainty Shilling Opal Jars by Chemists, Stores and Perfumers, or can be obtained direct from the Sole Proprietors, C. E. Fulford, Ltd., Leeds.

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have fitted up several thousand installations, and in addition have adapted over 100 plants of other makes to their system, showing a saving of from 50 to 75 per cent. per annum.

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CROUP  
The Celebrated Effectual Cure without Internal Medicine.

**ROCHE'S Herbal Embrocation**  
will also be found very efficacious in cases of BRONCHITIS, LUMBAGO, AND RHEUMATISM.

Price 4s. Of all Chemists.  
London—Edwards, 157, Queen Victoria St. Montreal—Lyman, Ltd., St. Paul St. New York—Fongers & Co., 90, Beekman St. Paris—Roberts & Co., 5, Rue de la Paix.

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The Oldest Proprietary HEALING OINTMENT for ALL WOUNDS and CHRONIC SKIN DISEASES. An Ideal Toilet Cream.

Of all Chemists, 1/4d. 2/6, 1/6; or post free for stamps from BEACH & BARNICOTT, Ltd., Bridport, Dorset, England.

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are those, indeed, which show the lustrous milk-white beauty of a well-kept set of teeth.

The regular use of Calox will keep your teeth in that fine condition. Oxygen is the cleansing agent in Calox, and there is nothing else so purifying, nothing else that removes the causes of dental decay so effectually.

Start to-day the regular night and morning use of Calox.

**CALOX** The Oxygen Tooth Powder

A Dainty Sample Box of Calox sent Free for a Postcard.

Calox is sold ordinarily by Chemists and Stores at 1/1½, in non-wasting metal boxes.

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As a Peps tablet dissolves in the mouth, strengthening, medicinal and antiseptic fumes are breathed direct into every corner of your throat and lungs. Peps stops inflammation and soreness of the delicate membrane lining the breathing tubes; they prevent harmful germs from settling in the throat, and by their tonic effect they enable the lungs to resist disease. Peps are entirely British.



Of all Chemists and Stores.



## THE CHRONICLE OF THE CAR.

**Light Cars.** I wonder if it is the war that has produced such a variety of light cars and cycle-cars for this year of grace. The publication, for the third year, of "Light Cars and Cycle-Cars of 1915" by the Temple Press, with over seventy makes of machines described, leads me to hazard the above remark. Perhaps



AT CALCUTTA: FOUR OF THE CELEBRATED ALL-BRITISH 15-H.P. STRAKER-SQUIRE CARS.

it is the growing desire of the side-car and motor-cycle brigade to have something more approaching the car proper that has led to this influx of small four and three wheelers to be offered to the public. I can quite understand the desire of the motor-cyclist to have a "sociable" form of vehicle, though the side-car combination hardly comes into that category, but I fail to see the *raison d'être* of the mono-car or solo passenger cycle-car. "Some day," folks used to say, "we shall see the £100 car." Good people, that day has arrived, for already you can have a choice of eight or nine vehicles ranging from £85 up to £100, with various forms of transmission in the shape of friction, belt, and chain drive. I think I can hear the modern-day motorist pooh-pooh these prehistoric methods of utilising the power from the engine to the road-wheels, but I can assure him that all three do their work exceedingly well, especially the friction drive and chain forms. Of course, if you want a shaft or live-axle drive, like a car proper, you must spend a trifle more than the £100. Not much, in reality, for the Saxon costs £105 with shaft-drive, and a four-cylinder, water-cooled motor; while the Humberette is priced at £120, and the Warren-Lambert at £131 5s. Why the five shillings I do not know, except that the Kennedy, a belt-driven machine, is quoted at exactly the same odd figure.

**Duo Centum.** Joking apart, though, you can now buy a duo car for £100 that is quite an efficient machine; for under £200 there is a marvellous choice of really good little light cars that can carry two persons and their luggage admirably, and some are even fitted with four-seated bodies. There are fifty-six different cars of this nature, ranging from £152 to £200, which include such names as the Horseman, G.W.K., Stellite, Chater-Lea, Morris-Oxford, Day-Leeds, A.C., Clement-Bayard, Alldays, Arden, Calcott, Enfield Charronette, Riley, Singer, Standard, Calthorpe, Marshall-Arter, Swift, Hillman, Marlborough, and Baby Peugeot. Over £200, one only finds light cars of the *de luxe* type, with coupé bodies and such-like extravagances. Of course, when it comes to coach-work of a superior nature, it is possible to spend quite a lot of money, but for ordinary requirements I fancy the two-seater with an efficient hood and front screen is the right equipment for these little cars. As sixpence buys this full list of "Light Cars for 1915," any further details required must be gathered from this useful reference book.

**Gate Control.** I am well pleased that Courts have settled the vexed question

at last the Law of the gate change-control patents. Mr. Justice Warrington has now decided that Herr Maybach's patent of 1900 for this device on Mercedes cars was anticipated by Mr. Hampson's patent of 1898. Most motorists have been of the opinion that the wily German, finding Mr. Hampson's patent for changing driving gear applicable to various machine-tools and to other forms of driving, including



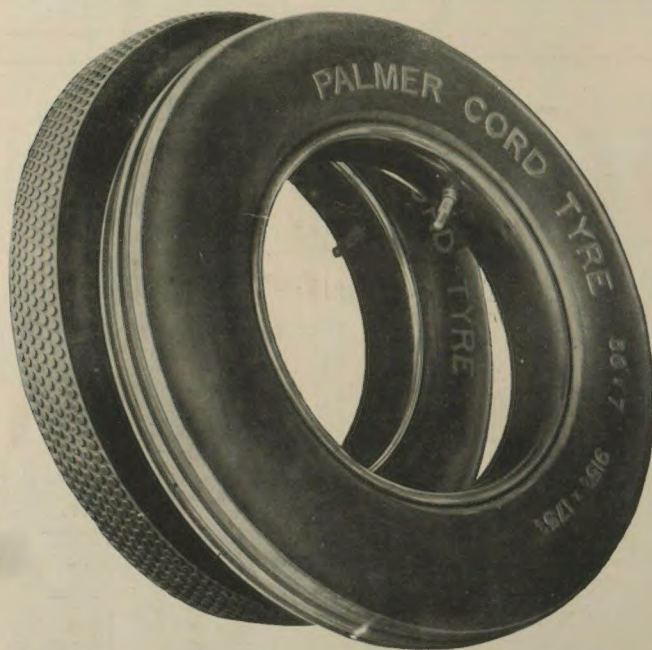
THE NEW 17.9-H.P. ARROL-JOHNSTON MODEL: A FRONT VIEW.

self-propelled vehicles, boldly adopted it, and then took out a very wide patent. His Lordship held that this patent was too indefinite, besides being anticipated, and so invalid. The Maudslay Motor Company were made the "chipping block" for the British industry, but I expect the trade has pooled the expense in this test case. I wonder now what are the feelings of those motor-car manufacturers who have been paying royalties to the

[Continued overleaf.]



SUPPLIED TO THE ADMIRALTY FOR THE NAVAL AIR SERVICE: A FLEET OF SIZAIRE-BERWICK CARS.



Palmer efficiency gives more miles per sovereign spent, more distance per petrol gallon consumed, saves your car from rack and jar, and cuts out trouble.

TEST DIAGRAM POST FREE. What the same car did at Brooklands, first with canvas-lined tyres and then with Palmer Cords. Send a p.c. for this money-saving Palmer proof.

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"I bought a six-cylinder with Cabriolet body just before Whitsuntide, and did a thousand mile tour the first week. When war was declared I had a rough body put on, and for four months it was never inside a garage night or day, sometimes in November being filled with snow at night. Since being here she has lived practically on the sands. When she refused to start this week I found the carburetter was filled with a mixture of salt water and sand, also the magneto was filled with sand. The car has not been washed since war was declared, and plugs only cleaned once. There are lots of sea-water splashes here, and I take them at anything between 40 and 50 miles per hour, and have never been stopped with a wet magneto. The car is an absolute wonder, and if all your cars are like mine your work is something to be proud of."

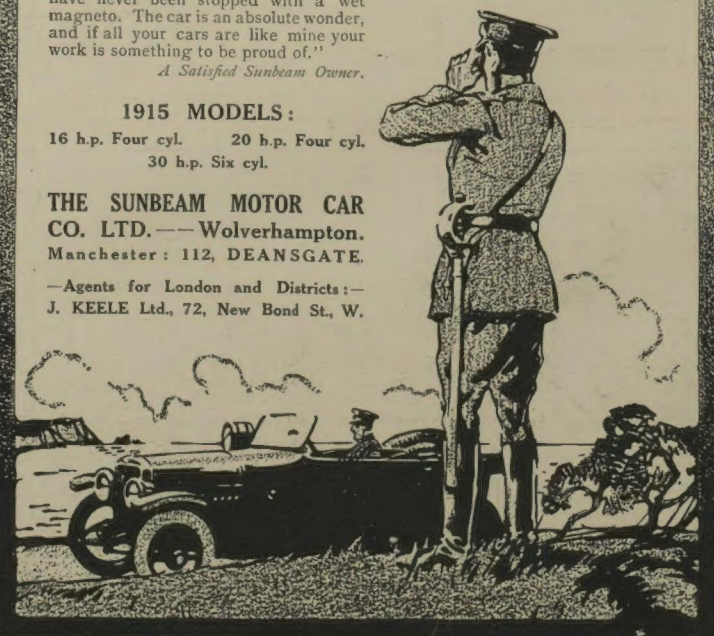
A Satisfied Sunbeam Owner.

### 1915 MODELS:

16 h.p. Four cyl.      20 h.p. Four cyl.  
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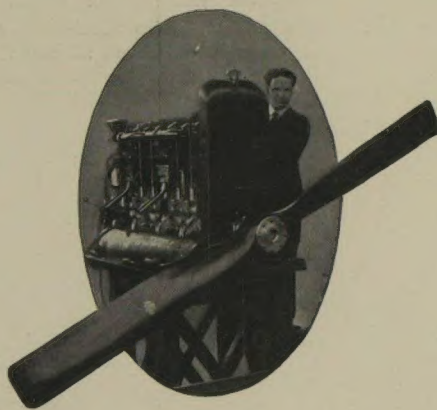
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Messrs. Arrol-Johnston, Ltd.,  
are busy building biplanes  
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Aero Engine On Test.

**Q** The remarkable new car-building plant at  
Dumfries is turning out delicate yet powerful  
aero engines IN QUANTITY.

The use of the aero engine facilities in machinery, personnel  
and tests will render the 1915 Arrol-Johnston car rather an  
advertisement of quality than a profitable manufacturing proposition.

Arrol-Johnston, Ltd., Dumfries.

In spite of the increased cost of materials  
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THE PRICE OF THE FAMOUS  
**12 h.p. ROVER**  
WILL BE KEPT AT  
**£350**

FOR THE WHOLE OF THE 1915 SEASON.

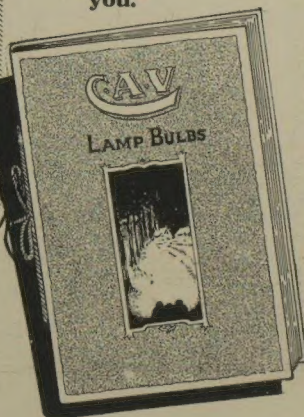
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Send for the  
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Lamp-bulb  
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"Take  
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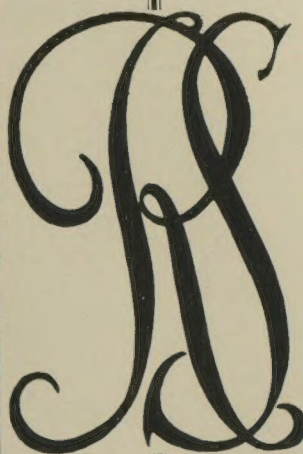
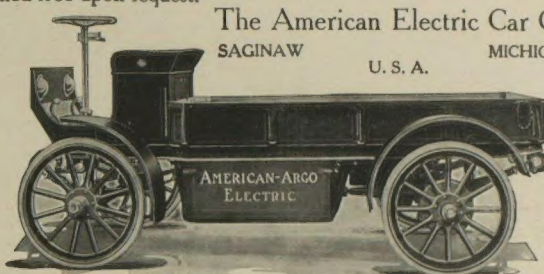
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**M**ADE in 1000 and 2000 pound chassis adapted for use with  
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Comfort is the  
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The epitome of Elegance,  
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**"THE SUPER TYRE."**

Reliability in tyres is of supreme  
importance, as well for safety and  
comfort as for expeditious transport.

The thick tread and strong casing  
of Clincher Motor Tyres render  
them in every way equal to the  
severe strain occasioned by hard,  
continual service, and therein lies  
the secret of their success.

The only PLANTATION RUB-  
BER MOTOR TYRES holding  
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SOCIETY, the British, French,  
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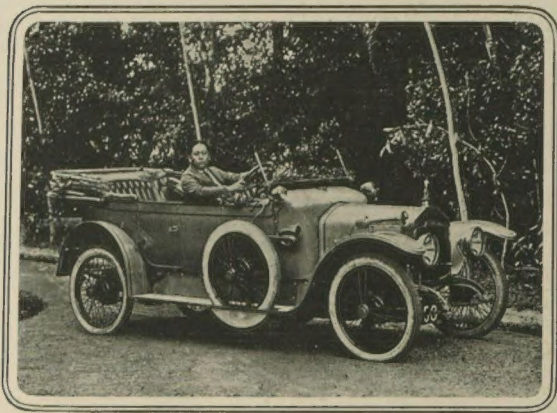
Factories - - CASTLE MILLS, EDINBURGH.





*Continued.*  
Mercedes people for many years, and whether they will try and get some of their cash back.

**Engine-Starters.** Just at the present time I find all sorts of electrical engine-starters advertised as So-and-So's patent design. For the moment, as no one sort has any great degree of favouritism with either



MUCH PLEASED WITH HIS 12-H.P. ROVER: MR. CHOO SENG YOU, OF SINGAPORE, ON HIS NEW CAR.

car-makers or motorists, it does not matter much; but when one particular form takes the public eye I can see more work for the legal luminaries, though personally I am rather inclined to doubt whether any real patents exist. After all, this form of engine-starter is purely an electric motor or dynamo, or both combined, and these had been in existence years before cars were thought of or their lighting requirements troubled about as far as electricians were concerned. While on this subject, I might mention the 12-volt Scott electrical engine-starter that has now emerged from its experimental stages and trials, and is full-grown and ready for use. Its great claims are its power and taking less current from the batteries to produce it, as it is so electrically efficient. Some day I will test it, and then give voice to its virtues and faults, if any.

W. W.

## WILLS AND BEQUESTS.

THE will of Mr. HERBERT BYNG PAGET, of Darley House, near Matlock, and Craigie Lea, Portarlinton Road, Bournemouth, who died on Dec. 16, is proved by Captain John Byng Paget, son, and Myles Atkinson Sleigh, the value of the real and personal estate amounting to £667,058. Having provided for his daughters, Mrs. Sleigh and Mrs. Holden, he gives £25,000 each to his daughters Margaret and Georgina; £20,000 to his daughter Victoria Bertie Innes; £500 to Myles A. Sleigh; an annuity of £100 to his old nurse Fanny Hayhoe; and the residue to his son. He appoints £10,000, settlement funds, to his five daughters.

The will (dated March 4, 1914) of the FIFTEENTH BARON ZOUCHE, of Parham Park, Sussex, and 114, Eaton Square, who died on July 31, is proved by Darea, Baroness Zouche, sister, and William F. Stratford Dugdale, the value of the unsettled estate being £96,218. He gives £200 each to Sir William Wyndham Portal and John Stratford Dugdale; £300 to William F. Stratford Dugdale; £200 to Guy's Hospital; £100 to the British Home for Incurables, Streatham; £100 to Sir Philip D. Trotter; £200 each to George and Nigel Anson; an annuity of £200 to Colonel William Southwell Curzon; £300 to Blanche Marriott; £100 to Frederick Wentworth Gore; legacies to servants; and the residue to his sister.

The will of Mr. EDWARD ECROYD, of Low House, Wetherall, Cumberland, who died on Nov. 13, is proved, and the value of the real and personal estate sworn at £222,600. He gives £1000 per annum and the use of Armthwaite House to his nephew Thomas Backhouse Ecroyd; £3000 to his niece Adelaide Jane Herbert;

£4000 each to his nieces Margaret Tunstall Gertrude Hartley, Alison Slingsby, and Edith Mary Ecroyd; £4000 to his nephew William Farrer; 500 shares in William Ecroyd and Co. each to John Ecroyd and William Basil Ecroyd; £100 to the Victoria Hospital, Burnley; £100 to the Cumberland General Infirmary; £50 each to the Home for Incurables, Carlisle, the Royal Albert Asylum, the Nelson branch of the British and Foreign Bible Society and Dr. Barnardo's Homes; and other legacies. The residue of the property is to accumulate for twenty-one years in favour of William E. Bedingfield Ecroyd and his heirs male.

The following important wills have been proved—

|   |          |
|---|----------|
| Mr. John Bell, Enterkine, Arnbank Station, Tarbolton, Ayrshire          | £172,759 |
| Mr. Henry Hales, Elmwood, Kenley, Surrey                                | £117,860 |
| Captain Stephen Henry Christy, D.S.O., 20th Hussars, Plaish Hall, Salop | £98,764  |



NOT BY THE B.S.A., BUT MADE IN GERMANY: MEN OF THE BIRMINGHAM BATTALION PRACTISING WITH A CAPTURED GERMAN MACHINE-GUN.

This captured German machine-gun is being used at Birmingham for instruction purposes. It was last August that the City of Birmingham offered to raise and equip a battalion of young business men, in addition to the 7000 recruits from Birmingham who had then already enlisted. Lord Kitchener replied: "The battalion you offer would be most acceptable and a valuable addition to his Majesty's forces."—[Photograph by Topical.]



Samuel  
Johnson's  
Good Sense.

"ALL fear is in itself painful, and when it conduces not to safety, is painful without use. Every consideration therefore by which groundless terrors may be removed adds something to human happiness."

## PRICE'S NIGHT LIGHTS

(93 Awards)



give a sense of security to imaginative children and highly-strung adults.



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